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Nov. 1853.

THE WATER-POWER OF MAINE.

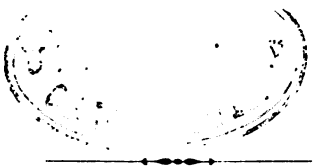
REPORTS

OF THE

COMMISSIONERS AND SECRETARY

OF THE

HYDROGRAPHIC SURVEY OF 1867.



PART I...Report of the Commissioners.
PART II...Report of the Secretary.

AUGUSTA:
OWEN & NASH, PRINTERS TO THE STATE.
1868.

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PART I.

23/18

REPORT

OF THE

COMMISSIONERS

OF THE

HYDROGRAPHIC SURVEY

OF THE

STATE OF MAINE.

1867.

AUGUSTA:
OWEN & NASH, PRINTERS TO THE STATE.
1868.

STATE OF MAINE.

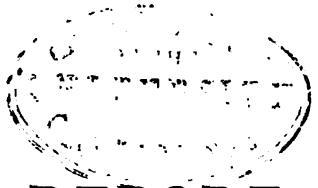
Resolve providing for a hydrographic survey of the rivers of this state.

RESOLVED, That the governor with the advice of the council is hereby authorized to appoint three commissioners to have charge of a hydrographic survey of the state. Said commissioners shall have authority to employ competent engineers to make a thorough hydrographic survey of such of our rivers as they shall deem most advisable, and make a report to the governor and council of the fall and volume of water of said rivers, the supply and constancy of the water, their lake reservoirs and their accessibility, and such other facts as will tend to show their advantages for the employment of manufacturing industry.

RESOLVED, That the governor and council are hereby authorized to cause the report of said commissioners to be printed in such form as will be suitable for distribution in other states and countries, with a view to invite immigration, and the investment of capital in the development of our manufacturing resources.

RESOLVED, That the governor and council shall allow such compensation for the travelling and other necessary expenses of said commissioners, not exceeding the sum of three hundred dollars as shall be just and equitable, and that the sum of three thousand dollars be appropriated for the payment of engineers employed in this survey, for which sums the governor is hereby authorized to draw his warrant on the treasury.

Approved February 28, 1867.



REPORT.

PORTLAND, December 31, 1867.

To his Excellency J. L. CHAMBERLAIN, *Governor of Maine:*

The Commissioners in charge of the Hydrographic Survey, have the honor to submit a copy of the record of their proceedings in discharge of the trust committed to them, and to transmit therewith the report of Walter Wells, Esq., Secretary of the Board, showing the progress made in the collection of materials for a full report of the Hydrographic features of the State, and the facilities afforded for the profitable employment of its water power.

In the discharge of their duties, the Commissioners could not fail to observe the remarkable configuration of the State, and the extraordinary facilities it affords for the production of wealth, and the maintenance of a large population, and the singular train of events which gave so vast an area of territory to Maine, as compared with other States of New England, (portions of which are separated from each other by natural barriers as applied to the divisions of States or countries,) present interesting topics of discussion to the historian and the political geographer, upon which we do not propose to enlarge, but to which it may be proper for us briefly to refer. Most of the States of the Union have grown into their present shape and proportions from the force of geographical laws, or by those of trade and intercourse, developed at an early day, if not cotemporaneously with their origin. The charters granted to the several original colonies out of which, State Governments have been evolved, were designed to embrace districts of contiguous territory, naturally united by physical laws. Maine on the contrary assumed her present proportions, as the result of the conflicting claims of title to the country, rather than as the result of any natural laws of boundary. Nearly one-fourth of the territory of the State lies within the basin of the river St. John, whose outlet is through the neighboring Province of New Brunswick, which has never been practically

recognized as a part of New England, though included in the great New England charter of November 3d, 1620.

The remaining three-fourths of the territory of Maine, lying upon the Atlantic slope, are divided naturally into several separate districts or hydrographic basins, of greater or less extent, without any natural point of convergence for the whole State; and no locality in Maine is pointed out by any great physical fact, as the commercial metropolis or convenient business center, of so large a district of country, as is the case with Montreal, New York, New Orleans, St. Louis and Chicago.

The railway, the great agency of modern civilization, overcomes natural boundaries, enabling communities separated hitherto by all but impassable barriers, to become united as one, creating not only new social and political relations, but new centers of commerce and trade.

The Pacific Railway, spanning the mountain ranges between the Mississippi and Pacific Ocean, is destined to effect great changes in the commerce of the world, if not permanently affect the course of trade to the East Indies and Australia, connecting necessarily with other lines, so as to cross the breadth of the continent at its widest part, giving to Maine an important share of the most valuable traffic of the world.

The city of Bangor at the head of tide water upon the Penobscot, the greatest river lying wholly in New England, where tide water penetrates farthest into the interior, within a basin of 8,200 square miles of surface area, would have great advantages for a commercial metropolis, but for its high latitude, and the severity of its winter months, shutting it up from navigation for an average period of 125 days in each year.

The upper basin of the St. John above Mars Hill, all of which originally belonged to Maine, containing 12,027 square miles or 7,697,280 acres of territory,—greater in extent than the Commonwealth of Massachusetts,—that which remains to us equalling in size the territory of that great State,—is inaccessible by water navigation, and it is to this day but partially settled, for the want of access to market, although its entire territory, without waste land, has a soil equal in productiveness and fertility to any portion of the United States.

These general allusions to the physical and political divisions of the State, essential to a proper understanding or statement of its

Hydrographic features, might be extended to greater length, but for the value of the space required for facts more closely applicable to the work of a Hydrographic Survey.

The State of Maine extends through 4° 23′ 33″ of latitude in length, a trifle more than 301 statute miles, from Kittery Point, at the entrance of the Piscataqua river into the ocean, in latitude 43° 6′, to the outlet of lake Pohenagomook, situated at 47° 27′ 33″ 25 of north latitude. It has a width of 4° 9′ 53″ of longitude, or 224 statute miles at its widest part, its most westerly point being at the line of Salmon Falls river in the town of Lebanon, and its most easterly point at West Quoddy Head, in the longitude of 66° 56′ 48″ west of Greenwich. These are the present limits of the State as defined by the treaty of Washington of the 9th of August, 1842.

The original boundary of Maine extended as far north as 48° 8′, and included the upper basin of the St. John, lying west of a due north line drawn from the monument of the source at St. Croix, to the height of land or divide that separates the waters of the St. John river from those that flow into the St. Lawrence, an area of 5,012 square miles, or 3,207,680 acres being taken from it by said treaty.

The figure of this State as originally constituted, and as it is now bounded, may be compared to an irregular triangle, the apex of which is now formed by the point where the waters of the St. Francis debouch from lake Pohenagomook; the base, the long line of sea-coast from Quoddy Head to Kittery Point. The direct distance from the foot of lake Pohenagomook to the Atlantic ocean is about 250 miles, and at its most southern point, at Kittery, 301 miles, as before stated. The direct distance from West Quoddy Head to the line of New Hampshire is about 210 miles.

The area of the State as originally bounded was about 36,778 square miles. As it lost by the treaty of Washington 5012 square miles, it was thereby reduced to its present dimension of 31,766 square miles,—about the size of the aggregate area of the other five New England States inclusive, and nearly two-thirds that of the area of England.

Viewed as a whole, Maine is undoubtedly one of the most interesting portions of this continent, or of any portion of the earth, from its immense extent of sea-coast and numerous harbors, its

variety of surface, its plains, valleys, mountains, lakes and rivers, its unequalled water power, and the proximity of that power to the sea, and its central position in the great Acadian Peninsula, that portion of the continent lying east of Lake Champlain and the Hudson, and between the St. Lawrence river and the Atlantic ocean, lying in equal proportions on each side of the forty-fifth parallel of latitude, in the temperate zone, with a climate most favorable to physical strength and intellectual activity; and it has been the expressed opinion of the most intelligent and best informed gentlemen engaged in manufactures, and others, that from the bracing climate of Maine, more endurance and better health obtain in the manufacturing establishments of Maine than in those of any other State in the Union.

The whole circuit of its outline boundaries is about 946 miles. But to determine the real circuit of the State,—measuring along the deep inlets and river estuaries as far inland as the ebb and flow of the tide,—it is impossible with our present means of knowledge to state with accuracy. It is believed, however, that the labors of the Coast Survey, now in progress, will make the shore line of the main land, from Kittery Point to Quoddy Head, at least 3,000 miles, while in a direct line it is only 226 miles. Between Cape Elizabeth and Cape Rosier, 90 miles on an air line, the distance will be over 1,200 miles following the line of main land upon tide water.

The southern boundary of Maine, in its whole extent, fronts upon that portion of the Atlantic ocean, in a succession of large bays, anciently known as the Gulf of Maine, which name has been restored upon the maps of the coast survey. The following schedule gives the direct distances upon the line of the coast of Maine, the distances obtained by following the outline of the different bays, the exact geographical position of each, and the several harbors, rivers or streams entering into each bay:

Schedule of Distances upon the Coast of Maine, &c.

Nos.	Bays.	Outline of Bays.	Latitude.	Longitude.	Distance on straight line.		Distance on shore line.		Harbors and Rivers entering the same.
					mls.	ft.	mls.	ft.	
1	York Bay.	Kittery Point to Cape Porpoise.	43° 6′ 43° 21′ 27″	70° 40′ 70° 25′ 11″	24		28	1760	1 & 2. Chancy creek. Brave boat harbor. York river. Cape Neddick river. Ogunquit. Webhannet. Merriland river. Branch river. Mousam river. Kennebunk river.
2	Saco Bay.	Cape Porpoise to Cape Elizabeth.	 43° 32′ 56″	 70° 14′ 20″	16	3960	22	1320	2 & 3. Little river. Saco river. Spurwink river. Nonesuch river.
3	Casco Bay.	Cape Elizabeth to Cape Small Point.	 43° 42′	 69° 49′ 2″	19	3960	30	2640	3 & 4. Fore river. Presumpscot river. Royal's river. Harrisseket river. Maquoit bay. Middle bay. Harpswell sound. New Meadows river.
4	Sagadahoc Bay.	Cape Small Point to Pemaquid.	 43° 50′ 12″	 69° 30′ 02″	18	4000	27	880	4 & 5. Androscoggin Kennebec river. [riv. Sheepscot river. Damariscotta river. Medomak river.
5	Muscongus Bay.	Pemaquid to Herring Gut Harb. Marshall's Point Light.	 43° 52′ 02″	 69° 15′ 21″	14		40	3000	5 & 6. Muscongus riv. Georges river.
6	Penobscot Bay.	Herring Gut Harb. Marshall's Point Light to Isle of Haut.	 44° 0′ 51″	 68° 45′ 15″	30	2640	102	3500	6 & 7. Westkeag riv. Meguntiscook river. Ducktrap river. Little river. Passawaskeag river. Goose river. Penobscot river. Eastern or Chibnectous river. Bagaduce river.
7	Blue Hill Bay.	Isle of Haut to Mt. Desert. Baker's Island Lgt.	 44° 14′ 37″	 68° 11′ 36″	20	2600	72		7 & 8. Union river.

Schedule of Distances upon the Coast of Maine, &c., (Continued.)

Nos.	Bays.	Outline of Bays.	Latitude.	Longitude.	Distance on straight line.	Distance on shore line.	Harbors and Rivers entering the same.
					mls. ft.	mls. ft.	
8	Frenchman's Bay.	Mt. Desert. Baker's Island Lgt. to Gouldsboro' Point inside Petit Menan Light.	44° 22′ 2″	67° 50′ 31″	15	41 2000	8 & 9. Jordan's river. Skilling's river.
9	Narraguagus Bay.	Gouldsboro' Point inside Petit Menan Light to Moose Peak Light.	44° 28′ 27″	67° 31′ 35″	24	63 1760	9 & 10. Gouldsboro' Dyer's bay. [bay. Pigeon Hill bay. Narraguagus river. Harrington bay. Pleasant river. Indian river.
10	Machias Bay.	Moose Peak Light to Little River Head Light.	44° 39′ 45″	67° 11′ 45″	23 1320	52	10 & 11. Chandler's Mason's bay. [riv. Machias river. East Machias river. Holmes' stream.
11	Long Beach Bay.	Little River Head Light to Quoddy Head.	44° 49′	66° 56′ 48″	20 1000	22 2000	11. Schooner brook. Bog brook. Moose cove. Haycock's harbor. Bailey's Mistake har- [bor.
		Aggregate of straight line, ...				226 miles 3640 feet.	
		" shore "				592 " 5140 "	

This estimate of distances is obtained by following the outline of the bays, and not penetrating their indentations. The shore line, including bays, harbors, and deep river estuaries subject to the ebb and flow of the tide, has been estimated at 2,486 miles, measured on our best maps, but the work of the Coast Survey has shown these estimates to be far below the truth, and it is believed that the actual shore line of Maine, by actual measurement, will exceed 3,000 miles.

The eastern boundary line of Maine follows up the channel of the river St. Croix from the ocean, through Passamaquoddy bay, through the Cheputneticook chain of lakes, to the monument at the source of the St. Croix, in a distance of about 88 miles on an air line,—over 118 miles following the line of the water course,—to a point in latitude 45° 56′ 36″ 8, and in longitude 67° 47′ west of

Greenwich,—where an elevation is attained of 538½ feet above the level of mean tide at Calais,—thence along the ancient due north line, as run by Samuel Titcomb and John Harris in 1797, and by Johnson and Bouchette in 1817, a distance of 77 miles, to the river St. John, in latitude 47° 4′, and in longitude 67° 47′ 30″, at monument No. 117, where the surface of the river St. John is 419 feet above tide water, crossing on its way several depressions, beds of streams entering the St. John, the lowest of which, the south branch of the Meduxnekeag, is only 265 feet above tide water. The north branch of the Meduxnekeag is 326 feet, the Presque Isle 322 feet, the river Des Chutes 412 feet, the Aroostook river 345 feet, Limestone river 397 feet, the south branch of Rapide de Femme 631 feet, the main stream of the same river 597 feet, its north branch 601 feet above tide water. From the St. John river to the monument at the source of the St. Croix the average level of the eastern boundary line is 545 feet above the tide level, seven feet only greater than that of the monument at the source of the St. Croix. The high points along the line,—Park's hill, in the town of Houlton, is 814 feet above tide water; Bluehill, in Fremont plantation, is 1,071 feet; Aroostook hill, in Plymouth grant, 885 feet; and Pekonk hill, in township Letter F, R. 1, 847 feet above the mean tide level at Calais.

About three miles east of the point of intersection of the boundary line with the river St. John, the waters of that river have a descent of 116½ feet at Grand falls, in a distance of a few rods. The large iron monument at the source of the St. Croix, erected by Messrs. Smith and Estcourt, is numbered 1, and a series of iron monuments mark its course to the St. John river, numbered from 1 to 117.

A profile of the eastern boundary line of Maine from the ocean to the river St. John, a distance of 195 miles, will be given on the new State map now in process of construction, under the resolve of March 1, 1867.

A schedule of elevations on the eastern boundary line are given in the table below, viz:

Elevations on the Eastern Boundary Line of Maine.

Quoddy Head, on tide water, . .	00 feet.
Todd's Head in Eastport, on tide, .	00 "
Calais, at the head of tide water on the St. Croix, .	00 "
Salmon Falls, . . .	24 "

Railroad crossing of E. and N. A. Railway,	381 feet.
Cheputneticook, or Grand Lake,	382 "
Monument at the source of the St. Croix,	538½ "
Alder Brook,	453 "
Mud Brook,	487 "
Wirley Brook,	531 "
Green's House,	711 "
Park's Hill,	814 "
South branch of the Meduxnekeag,	265 "
North " " "	326 "
Dead Stream,	337 "
River Presque Isle,	332 "
Latitude of Mars Hill,	527 "
River Gizarquit,	460 "
River Des Chutes,	412 "
Bluehill,	1,071 "
Camp Brook,	694 "
Tobique Road,	775 "
Aroostook Hill,	885 "
Aroostook River,	345 "
Limestone River,	399 "
Pekonk Hill,	847 "
Rapide de Femme river,	597 "
River St. John,	419 "

The northern boundary of Maine, commencing at the intersection of the eastern boundary with the river St. John, at monument numbered 117, follows the channel of that river to the mouth of the river St. Francis, a distance of 71 miles and 854 feet, where the level of the river is 606 feet above tide water,—at the mouth of Fish river the height is 556 feet above tide water,—thence up the channel of the St. Francis from its mouth to the outlet of the lake Pohenagamook, a distance of 38 miles and 4,472 feet, the surface of which is 748 feet above tide water, thence southwest from the outlet of lake Pohenagamook on a straight line to the northwest branch of the river St. John, a distance of 68 miles 3,068 feet, thence on a south line to the southwest branch of the St. John, in latitude of 46° 25′, a distance of 19 miles 1,672 feet, thence along said southwest branch of the St. John, from the parallel of 46° 25′, to its source, a distance of 32 miles 3,764 feet, to a large monument in township No. 5, R. 20, elevated 1,558 feet above tide

water, established by Messrs. Smith and Eatcourt, commissioners to run and mark the boundary line under the treaty of Washington. From this point, at the source of the southwest branch of the St. John, the boundary runs along the divide or crest of the ridge that separates the waters that flow into the St. Lawrence from those that flow into the Penobscot and other Atlantic waters, to the northwest corner of the State of Maine, by a very tortuous course, in a distance of 167 miles 4,446 feet, often running over the tops of elevated ridges and mountains. The whole distance from monument 117 at the St. John, following the line of boundary, is 360 miles and 3,950 feet.

The following schedule will show the distances upon it. The elevation of different points upon the line will appear on the proposed profile obtained from a variety of sources, principally from the exparte surveys of the N. E. boundary line in 1840, 1841 and 1842:

Schedule of Boundary from St. John River Monument 117, *at the intersection of the East Boundary Line, to the Northwest Corner of the State, between Maine and New Hampshire.*

Point of Location.	Miles.	Feet.	Latitude.	Longitude.	Elevation above tide water in feet.
From Monument No. 117, . .	–	–	47° 41′	67° 47′ 30″	419
To Grand river, . . .	12	600	47° 11′ 04″	67° 57′ 18″	
Thence to Greene river, . .	13	500	47° 18′ 24″ 7	68° 09′ 01′ 5	
" Iroquois river, . .	8	528	–	–	
" Madawaska river, . .	2	616	47° 21′ 39″ 4	68° 19′ 21″	474
" Albert's inn, . .	11	1848	47° 17′ 22″ 3	68° 27′ 34″ 5	
" Baker's river, . .	2	2376	–	–	
" Fish river, . . .	6	1980	47° 15′ 03″ 7	68′ 35′ 20″ 2	556
" Little river, . . .	7	200	–	–	
Monument 169, on the Head of Hunnewell's Island, . .	5	2040	–	–	
Thence to mouth of St. Francis river,	3	1320	–	–	606
" Lake Pettequaggamas at Col. Graham's Astronomical Station,	9	2904	47° 14′ 26″ 12	69° 02′	
" Canada and New Brunswick boundary line foot of Beaulic lake,	4	5000	47° 18′	–	664
" foot of Lake Pohenagamook at large Monument 178, .	24	1848	–	–	748
Thence on a straight line northwest boundary to Monument 215, south side of Lake Ktjemquespam,	23	4884	–	–	
Thence to Great Black river, Monument 248,	21	4224	–	–	
" Monument 276, near Lake Ishargan, . . .	17	4620	–	–	
" Monument 309, southwest branch of the St. John river, .	19	1672	–	–	
" source of ——— river at large Monument 318, . .	32	3764	–	–	

Schedule of Boundary, (Continued.)

Point of Location.	Miles.	Feet.	Latitude.	Longitude.	Elevation above tide water in feet.
Thence to Metjarmette lake or Portage, near Monument 322,	4	4752	–	–	1287
" Monument 336, on the dividing line between the Penobscot and Portage lake,	19	5016	–	–	1598
" Tascheraus, Kennebec road, large Monument 351,	14	2904	45° 48′ 36″ 7	–	2012
" Monument 374, near Lake Emily,	7	4752	–	–	
" Hogsback Monument, between Monuments 389 and 390,	10	660	–	–	
" Monument 400, north of Leech lake,	10	264	–	–	
" Moose Hill Monument 405,	6	2640	–	–	
" to Monument 416, near a stream,	12	4072	–	–	
" Dead River Depot, between Monuments 425 and 426,	9	3696	–	–	
" Monument near head of Moosehorn lake,	3	1056	–	–	
" Monument 441, close to source of the Dead river,	8	3168	–	–	
" Monument 451, head waters of the Cupsuptic and Arnold's rivers,	7	528	–	–	2225
" Monument 469, head of the waters of the Magalloway river, Saddle Hill,	13	1056	–	–	2640
" Crown Monument 474, northwest corner of the State, and forming the dividing line between New Hampshire and Maine,	6	2376	45° 18′ 24″	71° 6′ 41″	2568
Total from Monument 117 to northwest corner of State,	360	3950	–	–	

The western boundary of Maine extends from the monument at the northwest corner of the State,—elevated 2,568 feet above tide water,—over the line anciently run, to the sea, at the mouth of the Piscataqua river, a distance of about 163 miles 3,960 feet, dividing Maine from the State of New Hampshire.

The original grant of August 10, 1622, from the New England Company, made the Merrimac river the western boundary of "the Province of Maine." A division between Gorges and Mason, the proprietors, was effected, and the Piscataqua became their line of boundary,—New Hampshire falling to Mason, while Maine was retained by Sir Ferdinando Gorges.

The grant to Gorges from the Crown of 1639, described the western boundary of Maine as beginning "at the entrance of Pascataway harbour, and soe to passe up the same into the river

Newichawanocke, and through the same into the farthest head thereof, and from thence northwestwards, till 120 miles be finished," &c.

This line of boundary was first run out by New Hampshire, in 1741, by Walter Bryant, who extended it up the Piscataqua, through the Salmon Falls river to its source, estimated at about 40 miles, and to a point 80 miles north of the source of that stream. Instead of running northwestwards, as required by the charter of Gorges, he ran his line north, two degrees west, true course, or north, eight degrees east by the needle, showing at that time a variation of ten degrees west,—when his labors were suspended by the complaints of the authorities of Massachusetts, of which Maine formed a constituent part,—though the line was run in accordance with the order of the king in council of March 5, 1740.

New Hampshire, in 1768, employed one Isaac Rindge to complete the running of the line, who extended it on the same general course to a point within six miles of Umbagog lake.

In 1789, Jeremiah Eames and Joseph Cram completed the running of the line, their most northern point, however, was 17 rods and 7 links short of the true one, south of the divide between the waters of the St. Francis and of the head waters of Megalloway, an affluent of the Androscoggin river, which point was established by monument 474, by Messrs. Smith and Estcourt, commissioners to run and mark the line under the treaty of Washington. The western boundary line has never been accurately measured, nor have the elevations been ascertained by any uniform authority, those given, having been obtained from railroad surveys, and other unofficial sources.

From the ocean to the source of the Salmon Falls river the distance is 45 miles. From this point to the Saco river is 28 miles 3,960 feet, and the boundary line passes over a very broken country, the elevation of the Saco river at the State line being 450 feet above tide water. From the Saco to the Androscoggin river, a distance of 25 miles, the boundary line runs over a still more broken surface, passing over Mount Royce, which overlooks the valley of the Saco river at Fryeburg. The surface of the Androscoggin river where it is crossed by the State line, between Gilead and Sherburne, is 790 feet above tide water. From the Androscoggin river to the northern shore of lake Umbagog, in a distance of 30 miles and 1,330 feet, the line runs over high mountain ridges

and deep valleys, whose streams enter the Androscoggin, the level of Umbagog lake being 1,256 feet above tide water, as ascertained by careful surveys, in locating the line of the Atlantic and St. Lawrence Railroad.

From the north shore of lake Umbagog to the Northwest State corner, a distance of 34 miles 3,960 feet, the line passes over a succession of elevated ridges or mountains and deep valleys, Mount Carmel being no less than 3,711 feet above tide water.

These figures show that the distances of the boundary to be as follows:

From Quoddy Head to monument No. 1,	118 miles.	
From No. 1 monument to monument 117, at the St. John river,	77 "	
Eastern boundary,	195 "	
Northern boundary line from St. John river to Crown monument, or northwest State corner,	360 miles	3,950 feet.
From Crown monument to Kittery point,	163 "	3,760 "
Southern line on the ocean,	226 "	3,640 "
	946 "	990 "

We have given in brief terms above the outline boundaries of the State, and the elevations at different points as far as ascertained. Profiles of its eastern, northern and western boundaries will be given on the new State map, and form an interesting feature upon it, which map is now in process of construction. It is designed to embody in an authentic form on this new map the results of all previous surveys and explorations, and it is believed that Maine will then possess a map of reliable authority, secured at a trifling expense as compared with what has been expended by other States for similar purposes.

The United States government expended $169,000 in running and marking the boundary line from the monument at the source of the St. Croix to the St. Lawrence at St. Regis, under the treaty of Washington, a distance of 659 miles, but failed to publish any information touching the natural features of the country, or to give a profile of elevations of its northern or northwestern boundary lines.

The astronomical observations of Major Graham and Col. Pipon, astronomers of their respective commissions for running and

marking the boundary line, the determination of the position of important points, the tabulation of the angles and measured distances, and the tabulation of the monuments on the line, promised years ago, with an index map of the New England States, Eastern New York, and a portion of British North America adjacent, including the maritime provinces, have never yet been completed, or if completed, or any portion of them, have not been published or made accessible to the public.

The progress of intelligence and the demands of business have been such since that period that all the information in possession of the United States government is most desirable if not absolutely demanded for its economical value and uses.

Agriculture is greatly influenced by the comparative elevations of the earth's surface and the proximity of lakes and mountains. The influence of these upon the climate, and determining the amount of rainfall, is an element in estimating the value of water power. Hence we have thought it advisable to embody in this report such information as we have been enabled to gather as to the topographical and physical geography of the State, and give a list of elevations of different regions. The following table gives the elevations on the western boundary line as far as ascertained:

Elevations on the Western Boundary Line of Maine.

Kittery point, at tide water,	00	feet.
Mouth of Cocheco river,	00	"
Head of the tide at S. Berwick,	00	"
Portsmouth Company's mill pond at S. Berwick,	32	"
Salmon Falls Company's mill pond, 2 falls,	73	"
Great Falls Company's mill pond in Berwick, 4 falls,	107	"
Mast point reservoir northwest corner of Berwick,	180	"
Foot of three ponds in Lebanon, 3 falls,	353	"
Level of three ponds in Lebanon,	367	"
Horn pond in Acton, 7 falls,	479	"
Elevation of Northeast pond,	499	"
Saco river in Fryeburg,	450	"
Grand Trunk Railroad,	791	"
South shore Umbagog lake,	1,256	"
Summit of Mount Carmel,	3,711	"
New monument on the nortwest corner No. 474,	2,568	"

The following table, prepared by John F. Anderson, Esq., Hydrographic Engineer, from information gathered from various sources, and verified by comparisons and actual surveys, gives the elevations of the Saco river, from the line of the P. S. and P. Railroad at Saco, 63 feet above tide water, to its source. The actual fall of the Saco below the railroad bridge being 40 feet, all of its water power being employed in manufacturing, as will appear in the detailed report of the Secretary of this Board:

Elevations along the Saco River.

Authorities: Hall's Survey of Saco River Railroad marked H. Wadsworth's Survey of Saco River Railroad marked W. Anderson's " Port. & Roch. " " A. Grant's Survey of Port. & Ogdensburg Railroad marked Gr. Guyot's Paper upon the Appalachian System marked G.

Miles.		Surface of land.	Water.
		Feet above high tide.	
	Initial point, the center of the Portland, Saco and Portsmouth Railroad track, 400 feet east of Saco Depot, assumed and computed height, (H.)	63	–
8 4-10	Saco river, about 400 feet above Salmon Falls, (H.)	–	109
9 6-10	Port. & Roch. Railroad crossing above Bar Mills, (A.)	–	137
14	Below Moderation Mills, (H.)	142	–
	Above Moderation Mills, (H.)	160	–
16 7-10	Top of a "horseback" ridge, (H.)	270	–
20	Little Ossipee, (H.)	232	–
21 6-10	Half mile west of Steep Falls, (H.)	278	–
27 7-100	Saco river, quarter mile above Gould's Island, (H.)	–	252
30 22-100	Great Ossipee, (W.)	–	271
34	Foot of Great Falls, Saco river, (W.)	–	271
34 1-4	Head " " " low water, (W.)	–	343
	" " " high water, (W.)	–	346
35	Saco river at Hiram bridge, low water, (W.)	–	344
	" 400 feet above do. (H.)	–	351
39	Ten Mile brook, (H.)	359	–
42	Shepard's river, near Brownfield Centre, (H.)	368	–
44 1-2	Fryeburg river, on plains, (H.)	388	–
48	" " near village, (H.)	414	–
	South Conway post office, (G.)	450	–
56	North Conway,	–	–
62	Crossing of road junction of Ellis & Saco river (G.) water (Gr.)	576	543
62 3-4	Saco river, (Gr.)	–	555
63 1-2	" " (Gr.)	–	571
65 1-4	" " (Gr.)	–	605
66 16-100	" " (Gr.)	–	618
67 9-10	" " (Gr.)	–	653
68 89-100	" " (Gr.)	–	700
70 1-10	" " (Gr.)	–	755
70 94-100	Water in Saco river, (Gr.)	–	821
72 72-100	" " (Gr.)	–	887
74 12-100	Underpinning old Crawford house, (Gr.)	994	–
74 12-100	Old Crawford house or Davis tavern, (G.)	986	–
75 52-100	Water in Saco river, (Gr.)	–	1055
76 9-100	" " (Gr.)	–	1155
78 3-10	" " (Gr.)	–	1242
79 23-100	" " (Gr.)	–	1284
79 8-10	" " (Gr.)	–	1324

Elevations along the Saco River, (Continued.)

Miles.			Feet above high tide.	
79 86-100	Underpinning of Willey House,	(Gr.)	1340	–
–	Willey House,	(G.)	1335	–
81 1-10	Water in Saco river,	(Gr.)	–	1493
81 73-100	" "	(Gr.)	–	1672
82 2-10	" "	(Gr.)	–	1886
–	The Notch,	(G.)	1904	–
82 72-100	Crawford House,	(G.)	1920	–

JOHN F. ANDERSON, *Engineer Hydro. Survey.*

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Elevations above tide water along Portland and Rochester Railroad.

Gorham village,	220 feet.
Line between Gorham and Buxton,	192 "
Buxton Centre,	175 "
Surface of Saco river at railroad crossing,	143 and 146 "
Hollis Centre,	173 "
Weymouth's, near west line of Hollis,	277 "
Hanson's, near Waterboro' Centre,	285 "
South Waterboro',	264 "
Shaker pond,	223 "
Alfred village,	264 "
Mousam river, railroad crossing,	214 "
About the level of Springvale village,	262 "
Deering's pond in Lebanon,	350 "
Top of horseback in Lebanon,	294 "
Base of " "	234 "
Surface of Salmon Falls river at Great Falls, N. H., above the falls,	90 "

The Commissioners have collected from a variety of sources, facts which enable them to give elevations upon various points on the Androscoggin, Kennebec and Penobscot rivers, as follows:

Elevations on the Androscoggin River.

Tide water at Brunswick,	00 feet.
Height at upper dam Brunswick,	40 "
Little River Station,	– "
Lewiston,	160 "
Livermore Falls,	– "
Canton Point,	– "

Rumford Point,	639 feet.
Bethel,	683 "
State line,	791 "
Gorham Station,	802 "
Head of Berlin Falls,	1,048 "
Umbagog lake,	1,256 "
Richardson's lake,	1,456 "
Molchunckemonk lake,	1,486 "
Rangely lake,	1,511 "
Head of Androscoggin river,	3,000 "
Northeast head of Magalloway,	2,640 "
North " "	2,270 "
Northwest " "	2,917 "

Elevations on the Kennebec River.

Tide water, Augusta,	00 feet.
Foot of Ticonic bay,	36 "
Foot of Kendall's mills dam,	76 "
Head of Kendall's rips,	91 "
Moosehead lake,	1,071 "
Wood pond,	1,094 "
Source of Sandy stream,	1,868 "
Source of Wood stream,	2,089 "
Height of lake Emily,	1,950 "
Southwest head of Moose river,	3,113 "

Elevations along the Penobscot River.

High tide at Bangor,	0
Foot of Corporation dam in Veazie,	5 443-1000
Top " "	20 806-1000
Foot of falls at Basin mills in Orono,	27 297-1000
Head " "	35 497-1000
Stillwater, in Orono village,	37 572-1000
Foot of falls at Great Works, in Oldtown,	57 588-1000
Head " " "	68 648-1000
Foot " Dwinel's mills, "	71 82-1000
Head " " "	78 325-1000
Foot " Milford,	80 719-1000
Head " "	92 385-1000
Mouth of Passadumkeag,	106
" Mattanawcook, Lincoln,	172

Mouth of Mattawamkeag,	196 feet.
Penobscot lake, head of southwest branch,	1,509 "
Sources of the Penobscot in Sandy bay township,	2,100 "
Penobscot river head, No. 5, R. 19,	1,808 "
" " northwest branch, in township No. 6, R. 18,	1,742 "

The following interesting table will be of great economical value, as indicating the natural routes of communication between the Penobscot and St. John basins. This portion of the State is the least known of all to business men and tourists:

Elevations on the divide between the Penobscot and St. John waters.

Monument at source of St. Croix,	538 feet.
Lewis', on the Fish river road, No. 7, R. 5,	1,084 "
Head of Seboois lakes, No. 8, R. 7,	928 "
Little Millinocket lake on the Aroostook,	978 "
Height between Aroostook and Allegash river, at lake Pomgocquemock,	1,049 "
Fourth lake in township No. 7, R. 9,	878 "
Head of Chamberlain lake stream in township No. 7, R. 9,	1,134 "
Height of divide in township No. 6, R. 9,	1,040 "
Telos canal, No. 6, R. 11,	914 "
Height of Cusabexis lake in township No. 5, R. 12,	929 "
Portage between Mud pond and Umbajujus lake,	962 "
Height of portage between Allegash lake and Cocogaumock stream in township No. 7, R. 14,	1,710 "
Horn pond, at the head of Wadleigh's brook, in township No. 8, R. 15,	1,835 "
Francis lake, head of Turner brook, in township No. 8, R. 16,	1,632 "
Mucalesa pond, township No. 5, R. 16,	1,879 "
Upper St. John ponds in township No. 4, R. 17,	1,989 "
Portage between Baker's lake stream and Abecotnetic lake in township No. 6, R. 17,	1,492 "
Height of the northwest branch of the Penobscot, township No. 6, R. 18,	1,742 "
Height of Penobscot river in township No. 5, R. 19,	1,808 "

The Board were in hopes to have been able to give a list of elevations on the lines of the several railroads of the State, but find

themselves compelled to be content with a single line of levels across the breadth of the State, from the Piscataqua to the St. Croix, a distance of 303 miles, which is to form the trunk line of communication between the lower Provinces and the commercial metropolis of the Union.

Elevations on the line of railway extending from tide water at the Piscataqua river, the western boundary line of Maine, *via* Portland, Waterville, Bangor, Lincoln and Winn, to the eastern boundary line at the St. Croix, at the foot of the Cheputneticook lakes, a distance of 303 miles:

Distance between Stations.	Total distance.		Feet.
–	–	Portsmouth,	0
6	–	Elliot,	21
7	13	South Berwick Junction,	93.4
4	17	North Berwick,	136.2
6	23	Wells,	200.9
5	28	Kennebunk,	122.5
8	36	Biddeford,	71.7
2	38	Saco,	89.3
7	45	Scarboro', (Oak hill,)	31
6	51	Portland,	0
		51 miles on the Portland, Saco and Portsmouth Railroad.	
1	52	Commercial Street, Portland,	0
5	57	Falmouth,	32
4	61	Cumberland,	64
2	63	Yarmouth Summit,	113
1	64	Yarmouth Junction,	75
3	67	North Yarmouth,	75
4	71	Pownal,	120
3	74	New Gloucester,	100
6	80	Danville Junction,	188
		28 miles on the Grand Trunk R. R.	
6	86	Auburn,	210
1	87	Lewiston,	212
7	94	Greene,	308
5	99	Leeds Station,	260
3	102	Monmouth,	270
6	108	Winthrop,	213

Distance between Stations.	Total distance.		Feet.
6	114	Readfield,	320
8	122	Belgrade,	260
9	131	West Waterville,	243
6	137	Waterville,	105
3	140	Kendall's Mills,	120
6	146	Clinton,	128
5	151	Burnham,	158
7	158	Pittsfield,	202
7	165	Newport,	192
3	168	East Newport,	251
4	172	Etna,	250
4	176	Carmel,	149
5	181	Hermon Pond,	140
10	191	Bangor,	0
		110 miles on Maine Central R. R.	
1	192	Point of Rocks,	0
1	193	Rose place,	0
2 1-2	195 1-2	Veazie road crossing,	68
3 1-4	198 3-4	Basin Mills,	35
1 3-4	200 1-2	Orono,	37
2	202 1-2	Great Works,	57
1	203 1-2	Lower Oldtown,	78
1	204 1-2	Milford,	92
17 6-10	222 1-10	Passadumkeag river,	103
13 9-10	236	Mattanawcook stream, Lincoln,	172
10 8-10	246 8-10	Winn small stream on railroad track,	210
3 6-10	250 4-10	Mattakeunk stream,	199
1 8-10	252 2-10	Gordon brook,	231
2 7-10	254 9-10	Scatterac falls on Mattawamkeag,	275
3 5-10	258 4-10	Mattagoodus stream,	301
3 3-10	261 7-10	Mud Pond stream,	301
4 4-10	266 1-10	Summit between Mattawamkeag and Baskahegan,	616
5 1-10	271 2-10	Hot brook,	417
5 7-10	276 9-10	Baskahegan river five miles below lake,	370
4 4-10	281 3-10	Forks of Crooked brook,	366
9 1-10	282 2-10	Calais and Houlton road,	412
6 9-10	289 1-10	Tomah stream one mile below lake,	380

Distance between Stations.	Total distance.		Feet.
6 1-10	295 2-10	Summit betw'n Tomah stream and St. Croix,	545
2 4-10	297 6-10	Outlet of Lambert lake, . . .	388
5 5-10	303 1-10	St. Croix river, ...	381
		110 miles on the E. & N. A. Railway.	

Many points of elevation on other lines may be given. The recent surveys on the Belfast and Moosehead Railroad, show a summit of 580 feet in the Dixmont Notch, on the Newport route,—and an elevation of 400 feet on the summit at Unity by a more westerly line. On the line of the Bangor and Piscataquis Railroad there is a summit of 310 feet in Orneville, and an elevation of 340 feet at the proposed terminus of the line at Dover and Foxcroft village. The elevation of the Farmington Station, the terminus of the Androscoggin Railroad, is 441 feet above tide water. Sebago lake is 247 feet above the level of the tide at Portland.

In examining the entire surface of the State, with a view to an estimate of its average elevation, and a statement of its Hydrographic features, we give only approximate estimates, from facts gathered from private sources, the record of various surveys, and the returns of municipal officers.

Surveys made by the United States Government for canal purposes prior to 1830, give us the elevations of the valleys of some of the western rivers, and the height of the divide between various interlocking streams.

The *ex parte* surveys of the N. E. Boundary, made in the years of 1840, 1841 and 1842, afford much information as to the height of the sources of the rivers along our northern and northwestern boundaries.

The facts thus ascertained, in addition to those obtained from private parties,—the reports of Geological Surveys, and of railroad surveys, enable us to estimate the elevation of the surface of Maine for the purpose of illustrating the capacity of its water power.

With all the facts at command, the average elevation of its surface above tide water, may be estimated at about 1,000 feet, nearly equal to that of Moosehead lake, 1071 feet above tide water, situated but a little to the northwest of the geographical center of the State.

The extraordinary amount of available water-power found within the limits of Maine, exceeding unquestionably that of any other portion of the earth's surface of equal extent, is the result of its peculiar physical configuration, and its geological structure. Occupying the center of the Acadian Peninsula on its southwest slope, between that great estuary the St. Lawrence on the one side and the Atlantic ocean on the other, the interior is so elevated above the level of the sea, as to secure a large and uniform amount of rain-fall, while its water-courses, seeking the most direct route to the ocean run nearly at right angles in their general course, with the rock stratifications.

Among the remarkable facts in the physical features of the State, is the proximity of the upper waters of Moosehead lake to those of the west branch of the Penobscot, and the vast economical results which may flow out of this state of things. It is comparatively easy to turn the Penobscot river into Moosehead lake at the northwest carry, and equally easy to draw off the lake into the Penobscot river at the northeast carry, and by raising suitable dams at the outlet of the lake, to retain a volume of water adequate to meet the requirements of business in the lowest drought of the summer. By this means the depth of water in the Kennebec could be so increased in the season of river navigation as to add greatly to its volume, and maintain on both rivers a more uniform supply for log-driving purposes and for the interior navigation.

Another striking fact deserves notice upon the Androscoggin waters. The upper lakes apparently had at one time an outlet by way of Ellis river, through the town of Andover, which is more than eight hundred feet below the level of Richardson's lake, but which outlet was cut off by the raising of their southern shores or the cutting down of the present channel. A short cut or canal into Black brook, the head of Ellis river, from the lake, would allow the water to flow through this short route, in a distance of twenty miles, to the Androscoggin, instead of the circuitous one of more than one hundred miles from the lake to the mouth of Ellis river in Rumford. A survey of this route has been made through the enterprise of individuals in view of an improvement of facilities, in sending lumber to market.

The chain of lakes which form the source of the main St. Croix river, are so much elevated above the waters of the Mattawamkeag, that the Cheputneticut lakes could be easily turned into the Baskahegan, and largely swell the volume of the Penobscot.

Should the Legislature think it proper to authorize a further continuance of labors on the part of the Board of Hydrographic Survey, so as to enable it to present practical and economical suggestions, with estimates of the value of the water-power of specific localities for manufacturing purposes, bringing into view the surrounding advantages, such as means of supply of agricultural products and building materials, and the comparative accessibility of different sections to market, the labors of the Commission it is believed, may repay the State in the form of augmented population, increased capital, and greatly enlarged annual production of wealth.

The publication of statistics of industry in connection with the development of the water-power of the State, will also have the effect to increase the value of our natural products, and extend railroads into the interior, thereby enhancing the value of lands, farms, water-power, and all other fixed property, including mineral products, now remote from market.

On some streams in New England the water-power is fully used, and successions of dams, rising one above another, like a succession of stairs, flow back the waters, till the level of the pond below reaches the foot of the dam above, as in the case of the Blackstone and Pawtucket rivers, so that no power is allowed to run to waste. Such an exhibition or demonstration on one of the leading rivers of Maine, like the Androscoggin, Penobscot or the Kennebec, would give more practicable power employed in manufactures than is now in use on any of the rivers of New England.

The Acadian Peninsula from Gaspe to the Connecticut, is distinguished by a highly corrugated surface, mainly of stratified rock, running nearly parallel with the general line of the sea-coast.

The dividing ridge which separates the Atlantic from the St. Lawrence waters,—from the head of the Connecticut to the Bay of Chaleur,—attains for the most part an average elevation of 2,000 feet, receding as you approach the St. John waters from the granitic outcrop at the head of the Connecticut, of which the White Mountains form the general base or geological center. The northwest State corner, at the extreme northern point which divides it from New Hampshire, 2,568 feet above tide water, is near the general level of the divide, that separates the waters of the Androscoggin and Kennebec from those of the St. Francis and Chaudiere.

There is a single depression at one of the heads of Dead river, between it and the Chaudiere, where the height is 1,554 feet only, crossing into the waters of the Spider river, whose outlet is into Lake Megantic, this lake being 1,291 feet above tide water.

Penobscot lake, near the northwest head of the Penobscot river, is 1,509 feet above tide water; while the lake opposite, forming the head of Portage river flowing into the Chaudiere, is 1,546 feet above the tide. The boundary line at Taschereaus on the Kennebec road is 2,012 feet above tide water; and at the Metjarmette portage, where the waters of the Penobscot and St. John and Chaudiere rise near together, the height of the boundary is 1,808 feet. Horn pond, at the head of the longest affluent of the Cocagaumock, a branch of the Penobscot, is 1,835 feet above tide water; and the Telos canal, connecting the waters of the Chamberlain lake, at the head of the Allagash, with the waters of the Penobscot, is 914 feet above tide water,—the elevation of that portion of the State lying in the St. John basin being considerable below that of the Atlantic slope. The highest point on the Fish river road from Mattawamkeag to the St. John, being but 1,084 feet at the divide between the waters of the Mattawamkeag and the Aroostook, and the divide between the waters of the Aroostook and the upper Eagle lakes but 807 feet above the tide water; so that the elevation of that portion of the State of Maine lying in the St. John basin, does not probably exceed 850 feet, while the Atlantic slope will exceed 1,100 feet in average elevation.

The source of the Saco, at the notch of the White Mountains, is 1,904 feet above tide water. The sources of the Androscoggin, not counting mountain streamlets or brooks, are from 2,500 to 3,000 feet; those of the Kennebec, an average of 2,200 feet; and the Penobscot, an average of 2,000 feet on its west branch, and about 1,200 feet on the east branch, and still lower upon the Mattawamkeag waters.

The Penobscot occupies very nearly the entire breadth of the State, in the latitude of 45° 40′; and (its most northern branches rising as far north as 46° 20′,) the dividing ridge between it and the St. John waters will average about 1,000 feet to the head of the Allegash waters; and from thence to the Canada line above Metjarmette portage, about 1,800 feet above tide water; and from thence along the serrated line to the corner of New Hampshire, the elevation will average about 2,400 feet along the general level of the divide, without reference to mountain ridges and ranges.

The large district of the State between the White Mountains and Mount Katahdin, distinguished by the frequent occurrence of mountains of intrusive rock of a granitic character, lying south of the boundary line, rising high above the average level, may be estimated as equal to the more depressed sections lying in the valleys of the rivers, and upon plains nearer the seaboard.

The great natural divisions of the State, may be stated as follows:

1st. The upper basin of the St. John, including those districts lying upon the waters of the Meduxnekeag and Presque Isle of the St. John, not claimed by Great Britain, containing 622 square miles of territory or 398,969 acres,—the entire basin belonging to Maine at the present time forming an aggregate of 7,638 square miles or 4,890,320 acres.

2d. The Penobscot basin, estimated to contain 8,200 square miles or 5,248,000 acres.

3d. The Kennebec basin, containing, by estimation, 5,250 square miles or 3,360,000 acres.

4th. The Androscoggin basin, including those portions lying in New Hampshire whose waters are drained through our own State, which forms a Hydrographic basin, equal to 4,000 square miles or 2,560,000 acres, of which 3,500 square miles or 2,240,000 acres lie within the limits of this State.

5th. The basin of the St. Croix, which forms our eastern boundary for more than one-half the distance, has a Hydrographic basin equal to about 2,000 square miles of territory, including those portions which lie in New Brunswick, that portion lying in this State containing about 1,500 square miles or 960,000 acres of territory.

6th. The basin of the Saco, containing 1,350 square miles or 804,000 acres, including the tributaries lying in New Hampshire which are drained into this State, the aggregate territory included in Maine being equal to 625 square miles or 400,000 acres.

7th. The basin of the Piscataqua, which forms our western boundary from the ocean at Kittery to the head of Salmon Falls river, containing in both States an area of 525 square miles or 336,000 acres.

These seven distinct Hydrographic basins or districts, embracing the largest portion of the State form portions of its external boundary, the waters of two of which only, the Penobscot and the Kennebec, lie wholly within the State.

These different basins are shown on the map of the river systems of the State, prepared under the direction of the Board with great care, the alignment by the Secretary and the coloring by Wm. Percival, Esq., C. E.

We do not propose at this time to enter into any discussion of economical questions connected with the use of water for manufacturing purposes, but to present for the information of the State authorities certain leading facts. The elaborate calculations and estimates of the Secretary of this Board will hereafter present the economical results, which can only be fully shown by a careful inquiry into the value of water-power as an industrial agent, with the most careful presentation of all the elements of value, such as volume and constancy of supply, as effected by evaporation or other meteorological facts. He will also present in detail the available water-power in the several cities and towns in the State, with aggregates and tables; showing the amount of water-power available, what is now in use, and the best method of utilizing that which is now running to waste.

Of all the agencies known to civilized man, running water is the cheapest and most effective, when it is unfailing in its supply, as is preëminently the case with the water-power of Maine.

All the country lying in the valley of the Mississippi, in fact all lying south of the 43d parallel, is subject to severe drought in summer, paralyzing industry and precluding the possibility of reaching the highest results of mechanical skill in the production of wealth. The moist climate of England has made her superior to the continental nations in the great departments of human industry, and if the Island of Great Britain possessed water-power equal to that of the State of Maine, her industry, great as it now is, would be vastly in excess of any present results. The machinery of Great Britain is driven mainly by steam power, which is comparatively cheap from her abundance of coal, and so great are the skill and capital of England, that they take up raw material of every country, transport it thousands of miles from its place of production, convert it into fabrics in infinite varieties, carry these back and sell them at a profit to the parties who produce the raw material.

The climate of Maine, though not so moist as that of England, produces annually a greater amount of rain-fall, and is equally healthy, enabling operatives to continue labor throughout the year

with less diminution of strength than in any warmer latitude; and there is no reason to doubt that with full employment of her water-power in the most productive forms of industry, she could maintain a population as dense as that found in the manufacturing districts of England; and might with adequate capital, in a comparatively short period of time, contain population and wealth equal to that of the other States of New England at the present time. The cotton manufactures of Maine might compete with those of Lancashire, as soon as the supply of capital and labor could be as cheaply afforded to our manufactures as to hers.

The ordnance surveys of Great Britain, so many years in progress and nearly completed, give at a glance an accurate view of every physical feature of the country; every road, every house, every hedge row, almost every tree in the kingdom, is delineated in a style that enables the traveller or proprietor of real estate to see at a glance, not only its mountains, rivers, plains and valleys, but the exact position of each, and the character of the natural productions of the soil. By this means the remotest district of the kingdom from the capital is made familiar to every one, and the value of landed property comprehended at a glance throughout the entire realm. In such a work as this, our State would form a most striking picture from the number and beauty of the lakes of the interior as compared with those of other countries; and when the interior of our State shall be reached by railways, the lands and forests, most remote from market, even those upon the waters of the Penobscot and St. John, now of trifling value, would command prices nearly equal to those in convenient proximity to the open sea.

In view of the importance of more exact knowledge of the physical character of our whole State, and of a better acquaintance with districts hitherto inaccessible to market, the Commissioners deemed it advisable, before making minute surveys of particular districts, to obtain some general knowledge of the water-power of the whole State. Printed circular letters were sent into every city, town and plantation in this State, inviting information from the municipal officers thereof, believing that a vast expenditure might be saved from the labors of engineers by the obtaining of all known facts touching the water-powers of different localities in the possession of the municipal officers of each. Two engineers were appointed, as will be seen by our records, in the expectation

that returns from the several cities, towns and plantations, would be made in such season, that surveys might be advantageously made the present year, the Board being of opinion that it would be inexpedient to send engineers into any city or town until returns had been received therefrom. Many of the cities and towns delayed their returns to so late a day that any considerable expenditure for surveys on the part of engineers seemed impracticable during the past season. Such results as have been obtained appear in this report, or will appear in the report of the Secretary, in which the water-power of the different towns in the State, as received, will appear in their regular alphabetical order. A large portion of the appropriation placed at the disposal of the Commissioners still remains undrawn in the hands of the Treasurer of State.

The extraordinary development of available water-power in Maine results from its geological structure. The surface of the State being chiefly of slate formation under various designations,—silicious slate predominating along the sea board, mica slate and mica schist of softer texture farther inland, and clay slate farther from the sea shore,—and in the northern portions of it, in the St. John basin, calcareous slates, mixed with limestone, raised or cut through by intrusive rocks, of granite or trap formation,—the elevation, displacement or fracture of these stratified rocks, has occurred in long folds or lines of corrugation, rising one above another to the axial ridge, that forms the divide between the St. Lawrence waters and those flowing southward into the Atlantic ocean. These folds or corrugations, originally lay in deep troughs or basins, forming lakes and ponds of every possible shape and size, and every variety of feature. As the water courses cut through the sides of these basins, they descended to the sea in a succession of cascades of greater or less elevation, or have cut down the channels through soft rock to a regular incline, as in the case of the river St. John from Grand Falls to the rocky barrier near the city of St. John; the Penobscot, from the Grand Falls to Oldtown and from Bangor to the sea, and of the Kennebec, from Ticonic Falls to the ocean.

The St. John basin, as a whole, is much more level than any other portion of the State, and has less water power in proportion, although the southern sections bordering the Penobscot waters, abound in lakes, many of them of very considerable extent. The channels of the streams are worn deeper through this softer rock

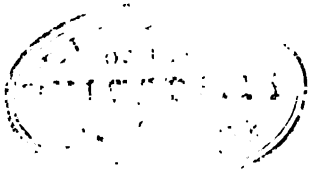
formation, which rock formation increases in softness as you recede from the White Mountain district,—the rocks upon the Saco and Androscoggin being harder than those of the Kennebec; and those of the Penobscot softer than either. Hence the water power of the State capable of beneficial use for manufacturing purposes, is relatively most abundant and valuable in proportion to its nearness to the White Mountain region, the base of the Acadian Peninsula.

The White Mountains fall off at the northeast and east into long ranges of hills, between which lie the great basins forming the head waters of the Androscoggin and Kennebec, which are the most remarkable of all, for the extent of their lakes and reservoirs, whose outlets are available for manufacturing purposes. West and northwest of the White Mountains as far as Lake Champlain, the country lies in long ranges of mountains, in nearly parallel lines, running north and south, with such sharp declivities as to afford few lakes, as compared with the country north and east of them.

The geological features of that district or section, lying east and south of the Penobscot waters, is of a somewhat different character from that of other parts of Maine, from the peculiar features of its rock formation, the deep troughs or basins which form the lakes in the valleys of its several rivers, and the comparatively level character of the country above the sea. The line of the divide between the waters of the Mattawamkeag and of the west branch of the Schoodic river, is marked by the most striking contrasts in the geological features which distinguish them.

The Alpine region between Mount Katahdin and the White Mountains, now covered with the original forests, has the amount of rainfall greatly in excess of the average of the State within 50 miles of the seaboard, which is equal to 43 inches in the year, so that by retaining the vast quantities of water deposited within the upper basins of the Androscoggin, Kennebec and Penobscot, by suitable dams upon the Umbagog waters, of Moosehead Lake and the upper Penobscot lakes, the annual summer average outflow of water, in the time of drought, might be doubled, giving an annual average of available water-power without example.

JOHN A. POOR,
A. D. LOCKWOOD,
HANNIBAL HAMLIN.



PART II.

DIVISION I.

PRELIMINARY STATEMENT.

REPORT.

HYDROGRAPHIC OFFICE,
Portland, Me., Dec. 31, 1867.

To the Honorable Commissioners in charge of the Hydrographic Survey of Maine—

JOHN A. POOR, A. D. LOCKWOOD, HANNIBAL HAMLIN:

Gentlemen:—The material represented in the Compendium of Statistics hereinafter following, has been collected by means of a series of circulars and by letters addressed to the municipal officers of cities, towns and plantations, to the proprietors of water-power and the agents of water-power companies. Returns have been secured from 371 municipalities out of 425 to which communications were addressed. Nine *townships* also have volunteered information respecting their water-power, a fact worthy of notice since no circulars were issued to unincorporated places.

The *number* of water-powers embodied is 1,955. As to the amount of working energy which these possess, it is of course impossible at this stage of our undertaking to form any other than a very rude estimate. It can hardly be questioned, however, that in the present undeveloped state of their reservoirs, natural and artificial, they will sum 300,000 net horse-powers. A part of the data upon which this conclusion is based may be stated. The Penobscot between Treat's falls at Bangor and the falls at Oldtown, both inclusive, is estimated on the basis of a former survey to furnish 40,000 horse-powers, gross measurement; the "Piscataquis Rips" at Howland and the privileges at Winn combined, will doubtless furnish 12,000 horse-powers. On the Kennebec, Augusta gives 5,000 horse-powers, Waterville 8,900, and the following towns, as estimated from somewhat imperfect data, Emden and Solon 4,980, Anson and Madison 9,000, Skowhegan 5,700, Fairfield 7,300, etc. On the Androscoggin, Lewiston (three powers) gives 14,500 horse-powers, gross, Brunswick about 8,600, Lisbon 6,740, Livermore 3,200, Jay (three powers) 4,950, Rumford 21,000, etc. These

combined furnish about 150,000 horse-powers, gross measurement, and suitably applied will net over 105,000 horse-powers or 6,300,000 spindles, nearly fifteen times the number operated at Lowell.

The powers specified, it is to be remembered, are only the principal falls on the lower sections of the main rivers. To these require to be added the hundreds of powers upon their tributaries and at the outlets of our hundreds of lakes. To these also is to be added the power not represented in these returns and hardly suspected to exist, which really does exist upon even our main rivers in their lower sections, but which the unpractised eye of the common observer does not discover. Such is the character of our rivers, both great and small, though not of all in equal measure, as to the hardness of their banks, their ledgy channels, their inliability to destructive flowage upon elevations of their surface, that they are susceptible of being to a large extent converted each into an unbroken series of water-powers from mouth to fountain head; each dam ponding the water back to the privilege next above, and so on, until nearly all the descent of the stream is turned to use for motor purposes. The powers thus susceptible of creation by human skill and the investment of capital, are not represented in this Report. They remain to be disclosed by more specific inquiries and by explorations in the field. They now appear only as tracts of river of somewhat stimulated rapidity and quite unsuggestive of manufacturing capability, but are in reality among the most valuable of powers for practical use, being sustained, when once appropriated, by comparatively long and large ponds formed by the dam, upon the river itself. These powers, I say, in their several varieties, require to be added to the short list detailed, before an adequate estimate can be formed of our water-power in even the portion of the State ostensibly represented.

The figure before given is much too small as an index of the power that can be obtained in the represented territory by the appropriation for storage purposes of the numerous and large *reservoirs* connected with the rivers. This may be inferred from one or two facts which I will state, borrowing them for the purpose from the materials already accumulated and elaborated for the Final Report.

The mean head raised by dams upon the Umbagog lakes is eleven feet, which involves the storage of over 30,000,000,000 cubic feet of water. This storage is effected, it will be noticed, from the surplus of the spring snow-meltings, and will therefore, during the

process of accomplishment, not impair the manufacturing capacity of the Androscoggin, which has during the period of storage an immense surplus over and above all possible manufacturing demands. Suppose now it be required to treble the power at Lewiston. For six months in the year the natural flow of the river is sufficient to multiply the power three-fold without the aid of storage. For three of the remaining six months, or more definitely, for the working hours of about seventy-eight days in late summer and early autumn, not far from 9,700,000,000 cubic feet would have to be disbursed from the reservoir to treble the power. For the remaining three months, during which the river would be at a stage intermediate between low run and the three-fold stage sought, about one half as much reservoir water would be required, or 4,800,000,000 cubic feet, to bring the natural flow to the required flow; so that after having raised the power two hundred per cent., there would still remain 15,500,000,000 cubic feet of storage for further use and to supply the necessary waste of water in the hours of non-use. The net power on the Androscoggin within the limits of Lewiston is now 10,666 horse; so that the astonishing aggregate of 31,998 net horse-power can be obtained in this single town without quite half exhausting the reservoir of the Umbagog chain of lakes alone. This is fifty per cent. more than the total sum of water-power in use in the whole kingdom of France a few years ago.

The dam at the outlet of Moosehead lake commands a head of seven feet over the whole surface of one hundred and twenty square miles. By lowering the channel of the outlet, a head of ten feet can be secured, and this head, it is estimated, the country tributary to the lake will furnish every or nearly every year, out of the surplus of the spring snow-meltings. A head of ten feet would give about 33,000,000,000 cubic feet of reserve water. To increase the present mean summer run at Augusta—175,500 cubic feet per minute for eleven hours a day—by two hundred per cent. for the working days of the ordinary period of low run, would consume about 18,000,000,000 cubic feet, leaving about 15,000,000,000 for water waste and for the deficiency (below the treble stage desired) in the months anteceding and following the three of lowest run.

It is to be remembered that the 33,000,000,000 cubic feet on the Kennebec are available not upon the 15-foot fall at Augusta alone, but upon much the greater part of the whole descent of 1,071 feet from Moosehead lake to the tide; that the 30,000,000,000 cubic

feet on the Androscoggin are available (though not wholly in our own State) in their fall of 1,256 feet from Umbagog lake to the tide at Brunswick; so that upon these two rivers the natural low-run power is susceptible of increase by hundreds of per cent. Great however as is this increase, it is relatively less than can be attained upon some of our smaller rivers whose reservoirs are *relatively* larger, as the St. Croix, the Presumpscot, and the Fish.

It would seem therefore a very moderate estimate that the power in the represented territory can be increased as a whole one hundred per cent. by the use of its associated storage basins, or to 600,000 net horse-powers. In this estimate no reference is had to the increase that can be commanded by means of strictly *artificial* reservoirs. The power at Lowell is 9,000 net horse-powers, and Lowell has a population of 32,000.

To put this in a different form: At the very lowest estimate of the mechanical horse-power measured against human energy, it can be reckoned equivalent to not less than thirteen man-powers; so that our represented water-power in its undeveloped condition and at the low stage of the rivers, must be judged to possess the working force of nearly four millions of men, and to be susceptible upon improvement of an efficiency equal to that of well nigh eight millions of men. This is undoubtedly a low expression of our power, it being the fact that when large amounts of mechanical force are combined in extensive establishments, in connection with suitable machinery of transmission, the horse-power will perform at certain forms of labor the task of one hundred and fifty men.

Still another comparison: The total power employed in the United Kingdom of Great Britain and Ireland, in the year 1856, in cotton, woollen, worsted, silk and flax manufactures, was 161,435 horse-powers, of which 23,724 were operated by water; so that the power represented in this Report is, in its present condition and at the low stage of the rivers, nearly twice greater than the working energy, both steam and water, employed as specified, and which was and is productive of so vast an annual return.

But beyond and in addition to the represented territory is the *unexplored* country and the *unreported* country, with its resources in the particular in hand remaining to be opened up to definite human knowledge. That there is vast power in these districts is well known; but how much, where it is located, what are its local conditions as respects susceptibility of use, are absolutely unknown —publicly and in an accessible form unknown. To particularize:

the highest point on the Kennebec reported is between Moscow and Pleasant Ridge, (and even here not so reported that any definite estimate of the available power can be formed.) Between this point and Moosehead lake, forty miles or more, the river has a total descent of between 500 and 600 feet—if the elevation of Moosehead lake is correctly given, 1,071 feet—and the amount and distribution of the power due to this descent are unknown. The power of the upper Penobscot, i. e., the west branch of the Penobscot, in its descent from Chesuncook lake 600 feet to Mattawamkeag, is unrepresented and unknown. The power of the Mattagamon, or east branch of the Penobscot, in its fall of 400 or 500 feet from its sources to the main Penobscot, is likewise unrepresented and unknown.

The power of the Mattawamkeag is substantially unrepresented and unknown, though a few returns give a bare clue to its existence in important measure. The power that can with suitable skill and outlay be appropriated upon the comparatively level basin and equable streams of the St. John and at the outlets of its lakes, is almost entirely unknown. This is indeed an astounding record of ignorance, of ignorance so long submitted to, in a state that has comparatively speaking so little of available resources of equal value with water-power, and in an age and country in which mechanical force is almost the highest desideratum, and the one element that can be most readily and freely converted into wealth.

About two-fifths of the whole area of the State are reported in the returns. It is not to be inferred from this that three-fifths of our water-power remain unrepresented; that is to say, such an inference if drawn at all, is not to be drawn from the simple fact alone of a three-fifths unrepresented area of territory, but from the additional fact also, of much unreported power in the nominally reported country. It would be futile at this time to attempt an estimate as to the amount of available power that will upon full development be found within our domain, whether a million or a million and a half of horse-powers. It is certainly not less than the former, it may be more than the latter.

It will be seen, therefore, that, aside perhaps from agriculture, no other natural resource of this State can for a moment be put into comparison with its manufacturing capabilities. We need not wait for further developments than are made in this Report, to be justified in affirming that the water-power of Maine may in the long run of time be more to her, than her coal mines are to Penn-

sylvania, her rice swamps to Carolina, or her corn fields to Illinois. Those all may fail; but this, based upon the unchanging features and sustained by the perpetually recuperative processes of nature, will never fail.

The full importance of this enormous working force will be realized, only, when it is considered that water-power possesses an economical superiority over steam for *extensive* manufacturing, which no cheapness of coal or other steam material by any possibility available in this country, can counterbalance; that the vast populations in the interior and western districts of the country will be obliged by various physical and economical circumstances, to rely upon the east for the grand staples of manufactured goods; and that climatic conditions in this State combine with water-power facilities to give the highest efficiency to manufacturing labor, a fact which alone in the event of sharp competition would determine the balance in our favor against any other manufacturing district in the land.

In regard to the *bulk* of the Digest. If the Secretary had felt authorized to exclude the small powers, or if the matter had been of such sort as would admit of tabulation, or if the various *details* respecting the powers could have been omitted without impairing the value of the statistics, or if any common measure of the efficiency of falls, either horse-powers or capacity of accomplishment in any form, could have been applied to all or the greater number, the Digest could have been reduced to much more compendious size. If, further, there had been in this State anything corresponding to the *land-selling* agents of the fertile West, or the *mining* agents of the remoter West, of whom the explorer can get all desired information, a mere circular or pamphlet setting forth in general terms our water-power resources, and referring to our water-power operators, would have been sufficient. But as matters stand in this regard, the Digest being really the only prospective source of readily accessible information, it was deemed necessary to embody in it such facts as a manufacturer in search of water-power would be likely to seek information upon, and to do this even though the document should assume a comparatively cumbrous bulk. Were there such an organization or department of the State Government established amongst us as a *Bureau of Internal Improvements*, with which correspondence could be opened by parties beyond State desiring information, so elaborate a document would perhaps be unnecessary for our purposes.

General Features of our Water-Power.

Brief reference will now be made to a few general facts or features on the character and condition of our water-power, incidentally brought out in the returns with great distinctness, and of such practical importance as to be worthy of special consideration.

The first of these is the present actual state of the power as respects *use*, to which casual reference has already been made on a former page. It is of course generally understood that our water-power is only partially improved. But the details in the Summary show, as it never before has been shown, to how singular an extent it remains unused. We there see that many powers upon which manufacturing cities equal in size to Lowell and Lawrence might be established, are in a state of total unimprovement. We can point to location after location upon our map, and say, Here the working force of 100,000 men is wasted; here, of 150,000; here, of 75,000, and so on in long series. We can specify scores upon scores of privileges upon which thrifty manufacturing villages of three or five thousand inhabitants each could be sustained, if the power were set at work fully, upon which only a saw-mill, grist-mill, carding machine or other small machinery now operates. Where the power is attempted to be improved, we now see how in a great number of cases it is improved; with leaky wooden dams; cheap old-fashioned wheels that utilize not over twenty per cent. of the total force of the water; with the lakes and ponds not appropriated for reservoirs at all, or in partial measure only; with the larger lakes and ponds used for the storage of water for only log-driving purposes, and of no effect therefore for manufacturing uses; with only the rudest, coarsest, least remunerative of processes (least remunerative for the State) carried on upon the privileges for the greater part, and for the greater part for no other purpose than to fit for transportation our raw products, in the rawest state consistent with transportation, to other States and countries.

This feature of the present use of our water-power is remarked, not for the sake of pointing an indictment of incompetency or deficient enterprise against the proprietors of the power, who are for the most part, doubtless, doing all they can do under the circumstances. But it shows, and is urged for the purpose of showing, that none too soon has general public action been taken, and none too persistently can such action be prosecuted, for the redemption of our water-power from such comparative inutility.

It is not necessary to say in respect to the use of our water-force and the equipment with which that use is conducted, that *some* of our powers are furnished with accessories in all particulars, dams, canals, machinery, buildings, fully on a par with the very best constructions in the country or the world; as examples of which it is necessary only to refer to Lewiston, Saco and Biddeford. The saw-mills of the Penobscot have no superiors on the globe in all the *instrumenta* necessary to the more elementary manufacture of lumber.

The second grand feature of our water-power, indicated in the returns, is its comparative *constancy throughout the year*. After making allowance for such as are suspended for a short season annually, and for the diminution of capacity experienced by all during the heats of summer, there still remains a truly remarkable proportion of all the powers, that can be relied upon as sources of mechanical force for the whole year. The feature in question is of course susceptible of assuming a much more decisive character, through the judicious outlay of capital, and this will be presently considered, but is here referred to simply and solely as secured to us by nature and without human interference. The constancy remarked embraces the two elements of persistence in drouths and exemption from heavy freshets. It is due, and especially the first element thereof, first to the uniform distribution of our rainfall throughout the year. While in Wisconsin the deposition of moisture is four times greater for one quarter of the year than another, in Kansas five times greater, in Minnesota five times, at San Francisco one hundred and twenty-six times, at Sacramento greater in the proportion of 9.02 inches to 0.00 inches; in Maine the per cent. of variation for the several quarters of the year is quite insignificant, especially upon the southern slope, the precipitation being on the average of the State nearly eleven inches each three months. The constancy is due, secondly, to the moderate heat of our summer, by which the waste of water is abated; thirdly, to our exposure to oceanic and maritime winds, especially humid drafts direct from the ocean on the south; fourthly, to our moderately hilly surface, by which surplus waters are thrown off with only measured rapidity and are therefore longer reserved for use; fifthly, to our forests which abate the vaporizing intensity of the sun and impede the movement of winds: sixthly, to our lakes and ponds, which act as checks upon the hurried removal of drainage. The particular element of freedom from destructive floods,

is due more particularly and in addition to the low temperature of the spring and the cold sea winds prevalent therein, by which the melting of the snow is delayed, and the rivers are prevented from attaining a torrential volume and velocity. Hardly any of our rivers rise, even on dams, and therefore at their narrow parts, more than ten feet, and for much the greater part the total range from lowest to highest water is as shown by the Returns, not over six feet. In contrast with this the Mississippi at St. Paul oscillates through twenty feet, at Prairie du Chien eighteen feet, at the mouth of the Missouri thirty-five feet. The Ohio at Cairo ranges through fifty-one feet, below the Falls sixty-four feet. The Ardèche in France, with a basin smaller than that of the St. Croix, varies sixty feet from low to high water.

The moderate character of our freshets is further due to the extent of wooded surfaces by which the power of the sun is broken and dispersed, and the accumulated snows of winter are given time to waste away gradually; also, as before implied, to the character of our surfaces, and the number of lakes and ponds. It will now be shown how the natural constancy of our water-power may be increased by the use of favoring conditions placed in our control by the munificence of nature.

It can be increased by the use of what constitutes the third grand feature of our water-power, namely, its *natural reservoirs* in extraordinary numbers in the form of lakes and ponds. The State map shows upon even the most cursory survey, that the surface of our domain is overspread and diversified with lacustrine bodies of unusual size and in singular profusion. By actual count I have ascertained the number thereupon represented to be 1,568, and their surface by careful computation to be not less than 2,441 square miles. It may be added that only two or three districts on the globe of equal area are similarly favored as respects the number and size of lakes and ponds; Minnesota alone within the bounds of the United States admitting of even a remote comparison.

But the map does not show the lakes to be susceptible of ready utilization for storage purposes. That they are so, at least over a very important portion of the State and over all of that represented, and in respect to the far greater number of lakes, is however demonstrated by the testimony of the Returns, and thus a fact of the very first order of importance is once for all, and for the first time for purposes of assured and general information deter-

mined. What practical consequences of high value can be commanded from the use of the lakes and ponds has already been indicated by one or two illustrations on a foregoing page, and will accordingly not be remarked upon further at this point. What consequences have already flowed from the improvement of one chain of lakes of only moderate size will however be noticed. The ponds at the head of Salmon Falls river, which are improved for reservoirs, have a combined area of thirty-seven hundred and fifty-nine acres, or less than six square miles. The largest one of these, the "Northeast Pond," it may be observed, is commanded to the depth of twenty-four feet. I am informed by the manager of the water-power at Salmon Falls, the lowest privilege upon the river, that the available power at low run at that point is at least one hundred per cent. greater than it would be by the natural run of the river; and of course at all the privileges above the gain is proportionally even greater. The Salmon Falls and Great Falls taken together have a descent of 148 feet, and the gross power realized is 6,442 horse. It appears therefore that upon these two falls alone a gain of 3,221 gross horse-power is realized by the use of such comparatively small storage basins. To this requires to be added the gain accruing in the 351 feet descent from the reservoirs to the head of the Great Falls, which is distributed to the various privileges in Acton and Lebanon, and which is, as is inferred, not less than 7,616 gross horse-powers.

The fourth feature of our system of water-power is the almost universal feasibility, indicated in the Returns, of *artificial* reservoirs, a characteristic of the first importance, as is evident, with reference to the constancy of the power. This characteristic was indeed to be anticipated from the consideration of our rain-fall, which is in all parts largely in excess of evaporation, from the unevenness of our surface, which affords innumerable receptacles for impounding rain-fall, and from the hardness and impermeability to water of our rocks, which prevent its dispersion and escape by underground percolation.

Storage basins are feasible in our State to an unusual degree from economical as well as physical considerations, land being so cheap that thousands of acres can be had for flowage at an expense comparatively trifling. They are feasible also from the liberal provisions of the law, which allows land to be taken for flowage purposes upon payment of damages.

The practicability of artificial reserve basins should be taken

into particular account in connection with the *small* powers and the powers which are represented in the Returns as *intermittent* for a part of the year. There can be no question that nine-tenths of these are susceptible of being respectively very greatly augmented and of being made efficient throughout the year by reservoirs. As is well known, there are numerous privileges in Massachusetts, Connecticut, etc., upon which cotton mills and woollen mills now operate for the whole year, the motor material of which in the summer, consists almost entirely of water impounded in artificial receptacles. The proportion of reservoir water is in many cases eighty or ninety per cent. of the entire low run of the streams; or in other words, the volume of the streams in the summer is artificially augmented variously from four hundred to nine hundred per cent. over and above what it would be in the state of nature. Indeed, considerable mills are now run all the year in the districts referred to upon streams which before the construction of reservoirs were almost literally dry in summer. It is in view of such facts that the small powers and intermittent powers are exhibited so fully in the Digest of Returns, these being nearly all susceptible of conversion into constant sources of mechanical force, and of being increased, many of them, by hundreds of per cent.

It is obvious that the improvement of the small powers by the means in reference will react upon the large and vastly increase their capacity at low run, and this without any additional expense to the proprietors of the large powers. The formation of storage receptacles will also diminish the frequency and violence of freshets, a matter of less consequence since floods are so little destructive with us.

The great number of powers fed by bogs and marshes will also be noticed as shown by the Returns. This feature is referable to the same physical causes which are remarked above, namely, the unevenness of our surface aspect, the water-tight character of our underlying strata, and the large residuum of evaporation. The powers thus supplied are found in practice to be amongst the most reliable and constant. James Hall, Esq., a civil engineer formerly employed in the service of the State, reports in the Documents for 1837, 610 cubic feet of water per minute issuing from a bog at the head of the north branch of the Piscataquis river at the dry season of the year, and 210 cubic feet passing into Moosehead lake from another bog in the same locality. He adds, that by means of short dams the swamps in question may be converted into enor-

mons reservoirs, from 5,000 to 10,000 acres. In like manner the town of Monroe appears to have water-power of considerable consequence, which is sustained almost entirely by the drainage of the Dixmont mountains collected in swamps. These are single examples amongst scores and hundreds.

In the fifth place the relation which the various water-power towns hold to *markets*, to centres of supply and demand, is developed fully in the Returns, and is a feature of interest. The relation in question is of course liable to change, and is to some extent constantly changing with alterations in the means of communication and transportation; but as now existing and affecting the value of water-powers in different parts, is of present and not altogether ephemeral importance. The special points that will be noticed upon inspection of the returns are, first, the large number of important powers that hold close and economical connection with the great commercial centers by sea; a circumstance that now is and will remain of considerable consequence so long as lumber constitutes so important a part of our manufacture and export; secondly, the number of towns that refer to places situate out of the State as their market; thirdly, the number of towns possessed, it may be, of very great resources of water-power, which nevertheless apparently indulge little or no hope of its improvement for an indefinite period, owing to the lack of railroad communication.

This last point indicates very plainly the necessity that our railroads should, with a view to the prospective necessities of the State, be built—*parallel* to the long manufacturing rivers, as the Androscoggin, Kennebec and Penobscot, and *across the outfalls* of the short, as the rivers in the southwest and southeast sections and between the outfalls of the Kennebec and Penobscot. These first at least and afterward elsewhere as required; and so, as best subserving the interests of the State for the given expenditure of money.

In the sixth place, the testimony rendered as to the *effect upon the wealth and population of towns* exerted by such improvement of their water-power as has already been made, is of a marked and generally gratifying character. In numerous instances the town officers use the following emphatic language or its equivalent: "It (the power) has created the village." "It brought us here and alone keeps us here." "It has doubled both wealth and population," etc.

In the seventh place, it will perhaps excite surprise that so small a representation of the *tide-powers* is made in the Returns. In making up the circular of questions, it did not occur to your Secretary that such powers might not be regarded as of any importance for our purposes. For such manufacturing as we hope to establish upon our fresh-water powers they are doubtless of secondary importance. But as agents in a grand manufacturing system in which a great variety of forms of labor is to be prosecuted, they are of great importance, and statistics in regard to them were and are desired. They have been to only a limited extent furnished and chiefly in response to special inquiries addressed by letter. One town with salt-water power sufficient to drive "sixty up-and-down saws," made at first a return of "no water-power in our town!" It will be noticed that this form of power as existing on the coast of Maine is of much more consequence than in any other State of the Union, by reason, first, of the extraordinary length and broken character of our coast, in virtue of which coves, inlets, and reëntering arms of the sea, of large capacity, and of such form as to be cheaply improved, become available by hundreds for use as storage basins and reservoirs of power. It is of more importance, secondly, by reason of the remarkable vertical range of the tidal fluctuation, which varies from ten to twenty-five feet upon the different parts of our coast, and which as compared with the variation upon the shore lines of the continents in general, is so unusual as to constitute a real phenomenon. It is hoped in a subsequent Report to show our resources in this regard in a more favorable and just light.

In the eighth place, the almost universal *supply of stone* suitable for building purposes, will be remarked as reported in the Returns, or of stone suitable at least for foundations, dams, underpinning, etc. In perhaps eighty or ninety per cent. of the towns, granite is specified as attainable comparatively near at hand, either as the prevalent rock, or as occurring in isolated patches, or sporadic in boulders and detached masses. This wide-spread diffusion of stone sufficiently hard and durable for economical use, is simply a necessary incident of those geological conditions by which in considerable part our magnificent system of water-power has been in the ages past secured to us unimpaired. Were our underlying strata mainly soft limestones, disintegrable sandstones, or other friable and decomposable rocks, our water-power would very probably have long ago become quite obliterated in all those more

salient features of steep descents and abrupt rapids, which now constitute its distinguishing character and chief value.

The hardness of our prevalent rock and the obstinacy with which it withstands the action of running water, has had and now has the further important effect of confining our rivers within comparatively narrow channels, of checking riparian ravages, and of preventing those vagrant diversions of their courses, which in alluvial districts result in so much annoyance and periodically in large destruction of property. By consequence as a general rule only short dams are required, mills are planted upon the solid rock, and no corroding current eats out the substratum of their foundations. In all the southern slope of the State the rocks quite universally come to the surface along the streams, and especially at the points of abrupt inclination. Only one "pin-gravel" rapid has been reported from the whole territory represented. So that the rock is almost everywhere to be had and almost everywhere is fit for use. In some of the Returns it is specified as "not fit for building purposes," but in these cases, it is believed, reference is had to architectural constructions, requiring stone not only durable, but also homogeneous and elegant in its appearance. The abundance of excellent brick clay will also be noticed, as reported.

The ninth feature that will be remarked in the Returns is the *vast extent of forest* still remaining in the portion of the State partially or wholly represented in the Report, and not including the unbroken wilderness of the North. The testimony ranges thus: in a few cases, "The basin of the river is one-fourth wooded;" in a great number, "Basin one-half wooded;" in many, "Nine-tenths wooded," "Ninety-nine hundredths wooded," "Unbroken wilderness," etc. The significance of this as bearing upon the constancy and volume of our water-power will be shown in a subsequent Report; but the circumstance is of importance as is generally understood.

In particular, the great amount of forest still remaining in the close vicinage of large numbers of our water-powers will be noticed. These forests contain every variety of soft and hard lumber appropriate to the region, procurable at small expense, and susceptible, by the fortunate proximity of the water-powers, of being worked up inexpensively into any forms which such woods are made to assume for any of the purposes of civilization. These forests in many cases stand close upon railroads or on the seaboard, and the articles manufactured from them are thus easily

transportable to the markets of the world. As respects the multifarious industries suggested in this connection and by the facts stated, we may say, here is the material; here is the power; nothing is wanting but enterprise and capital.

In the tenth place, the Returns indicate that power is to be had here for property or use at rates the most reasonable. "The proprietors will sell upon very favorable terms to any parties who will improve the power." "Any parties who come amongst us with a view to improvement of our power will meet a hearty reception and substantial coöperation." "The proprietor will *give* the power outright to any responsible person of sufficient means to improve it and who will improve it," etc., etc. Unquestionably privileges that in the older States would be held at hundreds of thousands of dollars can be purchased for thousands in this State; privileges of great capacity, well situated, improvable at small outlay, and which are thus in the market at a merely nominal rate simply because their *owners have not the means for their development.*

Closely related to the above consideration, is the liberal provision of the law of the State, which allows any town to exempt from taxation for a period of ten years, manufacturing establishments of whatsoever character, established therein, together with all the machinery and capital employed in operating the same.

It was the intention of your Secretary to ascertain by questions upon our circular what towns have already taken advantage of this provision, and the general disposition in regard to it in those that have not. But by some oversight the question was omitted. The Returns show however that the policy of the State has in a number of cases been ratified, and in others testify to the certainty of such ratification whenever occasion shall call for it.

Lastly, and as summing up details upon which incidental remark has already been offered, the truly surprising number of water-powers and amount of associated force, represented as contained within the thirteen thousand square miles, more or less, of our domain covered by the Returns, are worthy subjects of consideration. Some of the physical causes to which the singular development of our hydraulic system is due, have already been referred to, but briefly, as the discussion of the *rationale* of the system, is purposely and necessarily deferred to another Report. I will, however, barely refer to two or three of the more prominent. The first and most important of these, and which, singularly enough,

appears to have quite escaped observation, is, that the great mass of uplifted lands of which the White-Mountain cluster is simply a terminal focus, is found in Maine. On the west and south of the mountains the land falls off with great rapidity, so that at the distance of twenty-five miles, Lake Winnipiseogee is elevated only five hundred and one feet; and at the distance of eighty miles, at Portsmouth, the level of the tide is reached. Whereas, fifty miles to the north northeast, the Umbagog chain of lakes is held at a mean height of thirteen hundred and eighty-three feet; and one hundred and twenty-five miles northeast, that inland sea, Moosehead lake, is elevated nearly eleven hundred feet above sea level. In other words, Lake Itasca at the head of the Mississippi river is but a few feet higher above tide than Rangely lake; Lake Superior, 1,800 miles from the sea by the course of the river, is elevated only about two thirds as much as Moosehead, and Winnipiseogee is five hundred feet lower than the great lakes at the upper waters of the Penobscot. Our rivers therefore fall from a height which, in consideration of the proximity of the ocean, is quite remarkable. Secondly, the surface of the State slopes in two directions, to the east over its whole area, and to the south over five sixths of it, and in both directions to the *compass points of the rain winds*. Thirdly, the southern slope is sufficiently steep across its whole breadth north and south to be proper water-power territory, and its inclination is so uniformly diffused that waterfalls are found at all points upon the water-shed from its crest to its inferior margin, even close upon the sea, as on the Mousam, Presumpscot, Androscoggin, Sheepscot, St. George, Union, etc., etc. Fourthly, granites and granitoid rocks are extraordinarily developed in our State, and exert their characteristic reaction in roughening and breaking up the surfaces. Where the rocks are stratified, the strike is for the most part right-angled to the courses of the rivers, and the hardness of the prevalent rocks, as before noticed, preserves the irregular forms primordially impressed upon them; in virtue of which several circumstances the rivers find only broken and troubled pathways to the sea. Fifthly, every south, southeast, and east wind of a few hours' continuance brings within our borders the copious humidity of the Gulf Stream, in either a latent or visible state, impairing evaporation, and furnishing material for rain-fall. Sixthly, the cold ocean current by which the entire circulation of the north polar sea finds exit from its refrigerating basin to warmer climes, charged with enormous mountains of ice

and with ice-packs thousands of miles in extent, is driven directly upon the continental frontier northeast of us, and is carried as a cold inshore drift of somewhat abated temperature off our coast. Hence our winds from the northeast and east are characterized by a singularly low temperature at all seasons, the effect of which is to reduce evaporation and by consequence to augment the volume of the rivers. These various conditions taken in connection with others before remarked are sufficient to render such account of the development of water-power in Maine, as is necessary for the purposes of this elementary Report, and as will justify the assumptions of its superiority hereinbefore made. The parallel of these favoring circumstances taken in combination does not, I have the confidence to affirm, exist upon the surface of the globe. The grand features and determining conditions of our water-power will be set forth at length in the final Report.

With this brief preliminary statement, I pass to the principal part of my Report, the Compendium of Statistics. In this, the *small* powers are reported so fully, because experience shows these powers to be important elements in a great manufacturing system, and because a score of small powers are bought, sold and used to one large one. *Improvements* upon the privileges are stated, because these give a sort of measure of the power, and are points which any manufacturer proposing to buy or use a power would want information upon. By *gross* horse-power is meant the power developed at the dam, by *net* horse-power the power in the mill, the effective power. The net horse-power will operate on the average sixty cotton spindles, and eight net horse-powers will operate one set of woollen machinery. Various *plans and profiles* of powers will be given in the next Report, also a *water-power map* of the State. Notice of errors and additional facts are desired, and should be addressed to the undersigned at Portland.

DIVISION II.

DIGEST OF RETURNS.

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RETURNS.

Abbot—Piscataquis County.

Digested from Selectmen's Returns.

SIX POWERS.

First, on Piscataquis river; Second, Third and Fourth, on a branch of Piscataquis river; Fifth and Sixth, location not specified, except as being the former near the main road, the latter near a cross road.

The height of the falls respectively about fourteen feet, in a horizontal distance of three to five rods.

"Power would saw 2,000,000 boards and shingles per annum." Whether one power would do this, or each power, or all combined, not stated.

There are on the main river one saw mill, one shingle mill, one shovel handle shop. On the first power on the branch stream there are a grist mill, carding and clothing mill, and carriage shop; on the second a saw mill and shingle mill. No specifications respecting the other powers.

The lakes and ponds connected with the streams if turned to account as reservoirs, would enable the powers to operate all the year.

The total range from lowest to highest water is four feet. In a very dry season the mills hold up for a short time.

"There are so many water-powers in the State not so remote as ours, that the proprietors think it would not be good economy for them to pay for a survey at present." Total annual products $10,000; less use made of the powers than formerly.

Market, Bangor, by road.

Acton—York County.

Digested from Selectmen's Returns.

[See also "Acton and Newfield."]

FOUR POWERS.

First, Second and Third, would be sufficient each to saw lumber or grind grain a third of the year.

Fourth at the outlet of the Great Acton pond on Salmon Falls

river; water sufficient to run a large cotton mill the year round, at this and all the other privileges on the river. The entire water-power of this river, there being five privileges on the west side of Acton alone, is owned by the Great Falls Manufacturing Company. The company have constructed works at the cost of forty thousand dollars, by which they can draw water from the pond to the depth of twenty-four feet.

Market, Saco, Great Falls and Boston, by rail.

Acton and Newfield—York County.

Digested from the Returns of Acton and Newfield.

[See also "Acton"; and "Newfield."]

ONE POWER.

Situated on the Little Ossipee river, "Balch's Mills," on the Acton side. Power sufficient to run a cotton mill of medium size the year round. Saw mill and grist mill now upon it.

Addison—Washington County.

Digested from the Returns of D. M. Wass, Esq.

TWO POWERS.

First, on the "Basin stream," on which there have been two saw mills, now rotted down, one succeeding the other. The power has been unused for several years. Water sufficient for a single saw mill for about one-fourth of the year. Good chance for building a dam at little expense, ledge bottom. About four feet fall at low water and about eight feet of flowage making about twelve feet head and fall. No lakes or ponds.

Second, "Half Tide Falls" on Indian river, a very good power for a small one, no lakes or ponds, except the pond formed by the dam, which is quite large, covering (common flowage) about 1,000 acres. Six feet fall at low water, in a distance of twenty feet, and a flowage of about eight feet, making about fourteen feet head and fall. Single saw mill, grist mill, lath mill and shingle machine. The chance for building a dam is very good, ledge bottom all the way, and but a very short distance to build, with a plenty of good stone very handy and suitable for building purposes. Water sufficient for running the mills about half the time, and sufficient with a tight dam for one mill through a drouth. One or two dams could be built to hold back a large amount of water. Vessels of 800 tons burden can load within twenty rods of the mills.

ALBANY—OXFORD COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, on Crooked river, fall twelve feet, one saw mill, one shingle machine, one lath machine. Volume of water 300 square inches; in common seasons capable of sawing 300,000 feet of boards and 300,000 shingles and laths.

Second, one mile below on the same stream, with a fall of twenty feet, 300 square inches of water, and able to saw 300,000 feet of lumber yearly, one saw mill with one saw and edger.

Third, four miles below, fall eight feet. The saw mill upon this privilege when in repair will saw 900,000 feet of lumber, having an addition of water supplied by Songo pond.

Fourth, two miles below on the same stream, fall nine feet, unimproved.

Fifth, in the south part of the town, located on Stone pond river, twelve feet fall, and 300 square inches of water; one saw mill, shingle, stave and lath machines; capable of sawing 500,000 feet of lumber yearly.

Sixth, a mill for sawing staves and shingles, on the outlet of Kneeland's pond, with a fall of eight feet.

ALBION—KENNEBEC COUNTY.

[See Appendix.]

ALEXANDER—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

At the outlet of Lake Beautiful, one saw mill and one shingle mill. Mills operate about half of the year. Old-style wheel. The lake contains 400 to 500 acres. One-fourth of the basin covered with woods.

Market, Calais, turnpike.

ALFRED—YORK COUNTY.

[See Appendix.]

ALNA—LINCOLN COUNTY.

Digested from Returns of Hiram P. Carleton, Esq.

THREE POWERS.

First, "Sheepscot Falls," a saw mill and grist mill, operate on the ebb tide.

Second, "Head-of-Tide Falls," about five miles above Sheepscot Falls, wooden dam, head and fall about ten feet; can be increased

to thirteen feet readily by removing rubbish from the channel below the dam. Grist mill, stave and shingle mill. Large building adjoining, formerly used as a grist mill and carding mill, now as a shingle mill. Would make an excellent carriage shop or factory in connection with still another building attached, formerly used as fulling and cloth dressing mill.

Rose wheel and Kendall wheel used. Excellent chance for a stone dam, the bottom and sides of the fall being rock, with a high ledge on one side, from which stone for the dam can be taken. The power is abundant for all uses made of it. By improving the numerous lakes and ponds above, it can be made sufficient for a large manufacturing business.

The site is deemed an admirable one for a cotton or woolen factory. Proprietors not anxious to sell, but will sell on very liberal terms to induce capitalists to improve the power. They will aid in a *thorough* survey thereof.

Third, the "Rapids," the head of which is two miles above the "Head-of-Tide Falls," and which have a fall of twenty-five feet in one mile, with steep banks on both sides. Formerly a saw mill upon this privilege, now decayed. A dam might be built at the lower end of the Rapids, so as to flow them out, and give a head and fall of nearly thirty feet, and a pond above two miles long.

"Two and a half million feet of logs were run through this town in 1866, besides what were sawed in the mills on the stream."

Alton—Penobscot County.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Alton Village Mills," on Dead stream, two up-and-down saws, grist mill and shingle mill. Height of falls not ascertained; but "the privilege is a good one."

Second, "Long Rips," on Birch stream. Fall not ascertained. Not improved. Described as a "valuable power," and sufficient for a saw mill, grist mill and shingle mill.

Third, "Lewis' Mills," on Pushaw stream, a single saw and shingle mill. Six up-and-down saws have run on this privilege, but the mills were burned down. Stream fed by the Pushaw lake which contains ten or twelve square miles.

Market, Bangor.

Alva Plantation—Aroostook County.

[See Appendix.]

AMHERST—HANCOCK COUNTY.

[See Appendix.]

AMITY—AROOSTOOK COUNTY.

[See Appendix.]

ANDOVER—OXFORD COUNTY.

Digested from Selectmen's Returns.

TEN POWERS.

First, the "Corner Mills," on the West branch of Ellis river; fall fifteen feet in ten rods; grist mill, saw mill, shingle mill and starch factory. Power all used, with such machinery as is now employed.

Second, on the same branch, two miles above the "Corner Mills." Unemployed, and of equal capacity with the Corner power.

Third, the "Ellis Falls," on the East branch of Ellis river; fall twenty-five feet in four rods. Not improved. Title in dispute.

Fourth, the "Brickett Falls," below the Ellis falls, twenty feet fall in ten rods, granite ledge foundation. Unimproved. The East branch is fed by Ellis pond, 3 by 1½ miles, and by Garland pond, 1 by 1 miles. It is constant, owing to the ponds and swamp land connected. The West branch is more variable, being fed by springs and mountain streams.

Also several powers or tributaries to Ellis river, as follows:

Fifth, on Black brook, in the northeast part of the town.

Sixth, on Sawyer's brook, in the north part of the town.

Seventh, on Frye's brook.

Eighth, on Stony brook.

Ninth, on Lone brook, formerly used.

Tenth, on Gardner brook, starch factory erected this summer, with capacity to manufacture one hundred tons in three months.

These "tributary" powers have from fifteen to thirty feet fall each, and are estimated each equal to operating a grist mill with two runs of stones in any drouth, and much more in any ordinary season. Granite abundant and good. Lay of the land favorable, chief part of the basin of the streams wooded.

So far as the power has been improved the effect has been exceedingly beneficial upon the interests and wealth of the town. Annual product not ascertained, except that about eighty-six tons of starch were made and 200,000 feet of lumber sawed last year.

Market, Portland, by road to Bryant's pond, and thence by rail.

ANDOVER NORTH SURPLUS—OXFORD COUNTY.

[See Appendix.]

ANSON—SOMERSET COUNTY.

Digested from Selectmen's Returns.

[See also "Anson and Madison."]

SEVEN POWERS.

Five small powers "regarded in contrast with the large powers in town, too unimportant to be taken into account." No information therefore furnished.

Sixth. The "Norridgewock Falls," on the Carrabasset river, at its junction with the Kennebec, one mile long, and of such descent as to admit of one continuous line of machinery throughout the whole distance. The power is that furnished by the total volume of the aforesaid river with all the contributions of numerous ponds.

It is entirely unimproved.

Seventh. The "Upper Carrabasset Falls," four and a half miles above the lower falls, "a splendid water-power," with only a saw mill and grist mill upon it.

The best of granite, and excellent slate quarries close at hand on all the falls.

Railroad from West Waterville through this place now in contemplation.

ANSON AND MADISON—SOMERSET COUNTY.

Digested from the Returns of Madison.

[See also "Anson"; and "Madison."]

ONE POWER.

"Madison Bridge Falls," on the Kennebec river. The river falls *seventy-five* feet within the running distance of one mile, affording at convenient intervals three pitches where dams can be readily constructed with rapid water between.

At the upper pitch an inferior dam has been maintained for years. Here a dam could easily be constructed that would control the entire river, and at the same time be perfectly safe, having a ledge for its foundation across the channel, and being buttressed at both ends by the solid rock rising several feet above the surface of the water. Upon the eastern bank, a canal could be opened and carried nearly one hundred rods down the river, the further end of which could have an elevation of thirty feet or more above the bed of the river adjacent to it, and the land traversed would furnish the stone for the purposes of construction.

The lower pitch is also favorable to the construction of a permanent dam and for canalling to any extent desired.

If the low water run at this place for the summer, be assumed to be forty-five per cent. less, than at Augusta; or 96,250 cubic feet per minute, that at Augusta being 175,500 cubic feet per minute, and if sixty feet of the total fall, only, be assumed to be utilized, the gross power of the river at Madison Bridge is equal to 6,360 net horse powers or 381,600 spindles. It can be more than trebled by the improvement of the lakes above for reservoirs.

This power is pretty well guarded naturally against danger from freshets, the land upon the falls being high and ledgy, and it can be made at small expense entirely safe.

The only use made of the power at present is to drive the machinery of a few mills, a grist mill, a saw mill, sash and blind factory and a starch factory; all of which draw but slightly upon its resources.

Should the contemplated railroad through western Somerset be built, so as to afford the means of transportation, no better place for the extensive manufacture of lumber could be found than at Madison Bridge. Among the islands a little above, logs can be held back or safely stored to any amount, and floated down with ease when wanted. This place is also the centre of a wool growing district where more wool of the finer grades is raised, it is supposed, than in any other equal portion of the State.

Appleton—Knox County.

Digested from Selectmen's Returns.

TWELVE POWERS.

Three are situated on the St. George river, one on Pettengill river, two on the Medomac, three on Medomac branch, and three on St. George branch.

These are, Smith's mills, fifteen feet fall in one mile; McLain's mills, (upper,) fall fifteen feet in 1·5 mile, (lower,) fall twelve feet in fifty rods; Cutler mills, Burkett's mill, Lermond's mills, Stubb's mills, Hill's mills, Burkett's mills, Conant's mills, Gushee's mills, Simmon's mills.

Only part of the power is used. With good dams the powers of St. George river can operate all the year. Machinery by no means of good construction.

The streams are connected with lakes and ponds, which are susceptible of cheap improvement as reservoirs. Artificial reservoirs possible. Abundant and good stone for building. But little forest on the basin of the streams.

Market, Belfast, Rockland, by road.

ARGYLE—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Comstock Falls," on Hemlock stream. A shingle machine.

Second, "Lunt Falls," on Hemlock stream.

Third, on Hoyt brook, a saw mill and shingle machine.

Powers operate from six to eight months. Artificial reservoirs feasible. Good stone for building. Basin mostly heavily wooded.

Market, Bangor, by road, railroad and boat.

ARROWSIC—SAGADAHOC COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

All are tide powers, one being situated on the Kennebec river, and two on Back river, so called.

Mills will cut about 200,000 of lumber per month. Operate about ten months in the year. Best machinery for the sort of power.

ASHLAND—AROOSTOOK COUNTY.

Digested from Selectmen's Statement.

TWO POWERS.

First, on Big Machias stream, saw mill and grist mill; power sufficient to drive an up-and-down saw, and clapboard and shingle machine, and two runs of stones the year through.

Second, on Little Machias stream, will drive machinery, as above, eight months of the year. Saw mill and grist mill now upon it. The Big Machias is connected with several lakes of considerable size.

ATHENS—SOMERSET COUNTY.

[See Appendix.]

ATKINSON—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

They are all small, and are situated respectively in the central, south, southeast and northeast parts of the town. The falls average ten feet in twenty-five rods.

The power of each fall would be sufficient to cut 100,000 long lumber, and 200,000 short; at the centre sufficient to do all the

local grinding of grain. All poorly improved, with leaky dams, inferior saw shingle and grist mills. The mills operate spring and fall. Freshets harmless.

Market, Bangor, by road.

Auburn—Androscoggin County.

[See Appendix.]

Augusta—Kennebec County.

Digested from Returns made by Hon. Samuel Titcomb and Col. H. A. DeWitt, and from articles in the Kennebec Journal.

SEVEN POWERS.

Two powers on small streams, capable of but a small amount of work. No details.

Four powers upon the Bond brook, four dams in two miles, mills upon each, room for others. Stream rather variable in volume, but capable of very great improvement by artificial connection with large ponds in the vicinity.

Upper dam occupied by Abner Coombs, grist mill and saw mill; former operates all the year; the latter fall and spring.

Second dam, excelsior factory, E. C. Coombs, proprietor; annual product, $5,000.

Third dam, grist mill, Russell Eaton, proprietor; 11,000 bushels per annum.

Lower dam, factory of doors, sash and blinds, J. P. Wyman & Son, proprietors; thirteen feet fall; sixty hands; annual product, $100,000.

Kennebec Dam Power, on the Kennebec river, at the head of tide, and within the immediate limits of the city proper.

Height of the fall, fifteen feet; part vertical and part on a sloping apron about forty feet wide. It is now in contemplation to increase the height of the dam by three feet for the present.

Volume of water, about 130,000 cubic feet per minute at the lowest run of summer. The *average* summer run is estimated at 175,500 cubic feet per minute. [Statement founded upon the observations of 1866 and '67.]

The power due to the average summer run is about 5,000 (4,986) gross horse powers, or 3,660 net horse powers. Col. DeWitt judges that 332,000 spindles with preparation on print cloths can be driven with this power, his estimate being based on his large

experience in Rhode Island. This implies the best of machinery of all descriptions, capacious canals, and the most judicious use of the power.

Lay of the land, by no means favorable for the erection of mills with the appurtenant boarding houses, yards, etc.; but understood to be susceptible of improvement adequate to all practical necessities.

Construction material.—The best of granite close at hand; also unlimited quantities of clay for bricks; the country above furnishes lumber and fuel in all required amounts.

Owned by the A. & W. Sprague Manufacturing Company; Agent and Engineer, Col. H. A. DeWitt.

Improvements on this power on a vast scale are now in prospect and in the early stage of execution. Six hundred acres of land have been purchased, extending a mile and a half on the east side of the river and a mile and a quarter on the west side. A brick yard is in operation capable of producing 100,000 bricks per week. Townships of timber land have been purchased, saw mills bought and built, etc., so that a great manufacturing city may reasonably be looked for as certain speedily to arise upon this privilege.

The power of the Kennebec Dam is already employed as follows: at the east end an extensive saw mill, Lancy & Smith, proprietors; about fifty hands employed; annual product, $40,000.

At the west end of the Dam, an excelsior mill, J. W. Longfellow & Co.; annual product about $3,000. Also a clapboard planer, capable of planing 5,000 clapboards a day.

A saw mill, Charles Milliken, proprietor; twenty-five hands; product, $75,000 to $100,000.

A saw mill, D. G. Baker & Co.; fifteen hands; product, $25,000.

Sash, door, and blind factory, Bangs & Mosher; thirty-five hands; $60,000 per annum.

Barrel-head factory, Freeman Barker, $7,000 per annum.

Scoles' grist mill, 25,000 bushels per annum.

O. W. & W. G. Emery, planing and job mill.

E. Atkins & Co., boxes and shooks, $12,000 a year.

Furniture factory, A. Cowee & Son, $25,000.

Furniture factory, David Knowlton, $2,000.

Broom and brush handle factory, Smiley & Church, $5,000.

Kennebec Mill, A. & W. Sprague Manufacturing Company, 10,000 spindles, 300 looms; 2,400,000 yards light sheeting; hands

175, of whom 125 are females; value of product, $275,000 at last year's prices.

Some ——— horse powers of steam are employed at present in processes more or less closely connected with the water-power manufacturing, and the amount will doubtless greatly increase as the water-power comes into larger use.

Accessibility.—Augusta is connected with the seaboard by a line of railway, is about three hours distant from Portland, and eight from Boston. For about eight months of the year the river is open to the city, admitting the approach of vessels drawing — feet.

The proper utilization of the lakes and ponds upon the Kennebec for reservoir purposes will undoubtedly treble the working capacity of the Kennebec Dam power and others above. There are probably 300 square miles of lake surface available for storage improvement, the lakes being many of them of large size. In addition, artificial reservoirs thousands of acres in extent can be constructed at moderate cost.

Population of Augusta, 1867, 8,000; valuation, $5,500,000.

"The A. & W. Sprague Manufacturing Company in connection with the Kennebec Land and Lumber Company, have it in view to raise and improve the dam at Moosehead lake, and to control the flow of water therefrom."

Aurora—Hancock County.

[See Appendix.]

Avon—Franklin County.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Russell's Mills," on the outlet stream of Mount Blue pond, manufacture boards, clapboards, laths and shingles. Sufficient water to saw about four months in the year.

Second, situated one mile further down the stream, "Haine's Mill," manufactures lumber of the same kind as the "Russell Mills." These powers might be materially improved by a dam at the outlet of the pond, and raising the water some three or four feet, which the proprietors of the first power are authorized to do, there being a surface of more than three hundred acres. The rocks about these falls are mostly granite, and are suitable for building purposes. The falls are nearly equal and are each about fifteen feet.

Third, on a stream in the westerly part of the town, one and a half miles from Phillips village, on which are mills of the same kind as before named. Mills operate about three months in the year. Fall less than fifteen feet. One-half of the basin of the stream is covered with forest, quite a large amount being spruce, hemlock and bass, suitable for manufacture.

The "Mount Blue pond" drains an area of about fifteen hundred acres, two-thirds being forest; a large amount of spruce, hemlock, bass, maple, birch, suitable for manufacture and easy of access. Aggregate production, $4,000. Market, Farmington and Lewiston.

Baileyville—Washington County.

Digested from the Returns of Calais, and Anson's Report of Survey.

THREE POWERS.

First. "Sprague's Falls," on the St. Croix, five miles above the Baring Mills. Fall about twenty-five feet. "A magnificent water-power." At the head of the falls an island divides the river, and the St. Croix Log Driving Company have built a dam across the western channel.

The power is totally unimproved. The Lewey's Island Railroad passes close by this privilege.

Second. "Enoch's Rips," one-half mile above Sprague's Falls, on the St. Croix. Height of fall nine feet.

It is totally unimproved.

Third. The "Grand Falls," six miles further up on the St. Croix, just below the division of the river into the West and North branches. The falls consist of two pitches about half a mile apart, each pitch having a descent of about eighteen feet, and in combination constituting a power of the first magnitude. At the head of each fall is an island, with a dam from the islands to the English side.

It is entirely unimproved.

The extraordinary constancy of the volume of the St. Croix, its susceptibility of improvement in natural and artificial reservoirs of great size, the convenient lay of the land adjacent to the above falls, the abundance of building material in their vicinity, and their position not remote from navigable waters, with a railway in their neighborhood,—render the above mentioned privileges of the first value and of the highest capacity with reference to economical improvement.

BALDWIN—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

[See also "Baldwin and Hiram;" "Baldwin and Limington."]

TEN POWERS

On Break-Neck brook, a stream in the west part of the town, are the following privileges:

First. The "Burnell Privilege," situated on town road, about two miles from county road. Fall, in one hundred feet, twenty feet. Besides this, the dam as now constructed, gives a head of seven feet or more. A saw mill, shingle machine, saws for cutting staves, &c. Stream falls rapidly from the mill. Taking the water from bottom of dam the proprietor runs a twenty-foot overshot wheel. If the mill were further down stream, there might be a larger wheel. Dam could be made higher. The water used to the best advantage would run the machinery now on the premises night and day the year round, or nearly so. The pond, as now flowed, covers an area of about three acres. Mill is located in from the stream, where it is very safe. Considerable lumber in the basin of the brook above the mill. Lay of the land favorable, and building materials plenty.

Second. A short distance below Burnell's privilege is "Richardson's Privilege." Grist mill, shingle machine, circular saws, planer, &c. The machinery now runs about half the year. Might be made to run the whole year by day. Head seven and a half feet, and pond flows about two acres. Dam could be raised some two feet, and pond would flow about three acres.

Third. About one hundred rods below the last described premises, are the "Little Falls." Not improved. Six feet fall, good chance to flow, and a fine little privilege.

Fourth. About three-fourths of a mile further down the stream is "Bowers' Privilege," on town road about three-fourths of a mile from county road. Formerly a saw mill and grist mill did a good business here, but the privilege is not now occupied. Fall about eight feet; chance for a small pond with several feet head, and for another pond at the head of the lower pond, that would flow fifteen to twenty acres. Well situated, and a good water-power.

Fifth. Still further down the stream, a short distance from county road, is "Wetfoot Privilege." Not improved. Few feet fall, but a chance to build a high dam, and flow a large territory.

A grist mill, or other light machinery, could be run the year round, or nearly so.

On Dug-hill brook, a small stream that crosses the county road about one-half mile below West Baldwin village, are several good privileges for light machinery, as follows:

Sixth. Near the county road, is "Clark's Water-power." About nine feet head, pond small, rake factory, circular saws, &c. Used to best advantage would run light machinery nearly or quite the year round.

Seventh. Just above the latter privilege is "Harding's Water-power," now used for a rake factory. Head nine feet, and water sufficient for the business. Well situated on the county road.

Eighth. A little further up the stream is the privilege of Joseph Harding, jr. Well situated on the county road. Dam eight feet in height, five feet water in the flume. Saw mill and rake factory. Will run all this machinery two or three months in the year. There is an upper pond, which flows twenty-two acres. With help of upper pond, can run light machinery nearly the year round.

Ninth. Still further up stream, and more retired, "Flint's privilege." Twenty-four foot overshot wheel; shingle machine, spoke machine, circular saws, &c. Runs nearly or quite the year round.

Tenth. On Quaker brook, three-fourths of a mile from East Baldwin village, "Dyer's Water-power." Fall and head ten feet. Saw mill, shingle machine, circular saws, &c. With tight dam and good machinery, might run an up-and-down saw nine months in the year. A good privilege and very well situated.

Baldwin—Cumberland County, and Hiram—Oxford County.

Digested from the Survey of Cyrus Ingalls, Esq., procured and endorsed by the Selectmen of Hiram. Also from the Returns of the Selectmen of Baldwin.

[See also "Baldwin;" and "Hiram."]

ONE POWER.

"Great Falls," on Saco river, two and one-half miles below Hiram bridge in Hiram. The distance from the head of said falls to the foot is fifty-five rods, with a descent of seventy-two feet three and one-half inches. The distance and fall are divided as follows: The first thirty rods have a fall of twenty-eight feet five and one-half inches; the next, fifteen rods, a fall of twenty-three feet; and the last ten rods, a fall of twenty feet ten inches.

The river for some distance above and below the falls is the boundary line between Hiram and Baldwin. Its bed and shores are mostly a solid ledge the whole distance. The shores are high and bold; the land upon the east side rises to considerable height, but upon the west side is nearly level with high water mark. The river seldom overflows its banks.

As to the volume of water, cannot state definitely, but will say, at a common stage of the river there would be one hundred thousand cubic feet per minute.

Some years ago, the Water-Power Company of Saco cut a channel through at the head of these falls, on the west side, and put in locks for the purpose of holding back water to use through the dry season of the year.

The White Mountain stages pass down directly upon the east side of these falls in going to Portland, and by the west bank in going from Hiram bridge to Cornish.

The land upon the west bank is favorable for setting mills and factories a distance from the shore or bank, and taking water from the river.

The report from Baldwin agrees substantially with the statement above given; judges the volume of water at the mean stage of the river to be from 75,000 to 100,000 cubic feet per minute; thinks the water can be used very advantageously on either side, though perhaps most advantageously on the Hiram side; adds the fact that there is no dam, but that one might be constructed to pond water back for miles; amount of damage resulting, not stated; building material of all sorts abundant, except brick; not able to say whether these can be made of good quality close at hand; a hope expressed for speedy railroad communication that another "Lewiston may spring up upon this great power."

Baldwin—Cumberland County, and Limington—York County.

Digested from the Returns of Baldwin and Limington.

[See also "Baldwin;" and "Limington."]

ONE POWER.

"Highland Rips," on the Saco river, height fifteen feet in a horizontal distance of forty rods. Width of river two hundred feet.

No estimate of the power by measurement has ever been made. Power presumed to be totally unemployed as no mention is made of improvements.

Granite abundant and suitable for building close at hand. Proprietors disposed to have surveys taken in part at their expense.

Market, Portland.

Bancroft Plantation—Aroostook County.

Digested from Assessors' Returns.

THREE POWERS.

"Baskahegan Falls," on Baskahegan stream, height twenty-six feet in seventy-five rods. Grist mill, saw mill, shingle mill, clapboard machine. Can operate the year through, the stream being fed by Baskahegan lake which covers about seventeen square miles, and by other smaller ponds.

"Hotbrook Falls," on the outlet stream of Hotbrook pond. This pond contains four or five square miles. Power unimproved.

"The Falls," on the Mattawamkeag river, height fifteen feet in fifty rods. Could operate the whole year. Stream fed by a great number of ponds, large and small, further up. Entirely unimproved.

The capacity of the lakes and ponds can be largely increased for reservoir purposes. Underlying rock, limestone. The lay of the land about the falls favorable for the location of mills.

Market, Bangor by military road, steamboat and railroad.

Bangor—Penobscot County.

Digested from the Mayor's Returns.

[See also "Bangor and Brewer."]

SIX POWERS.

All the above are situated on the Kenduskeag stream, and are known as the falls at "Drummond's Mills," at "McQuestion's Mills," at "Bruce's Mills," at "Hatch's Mills," "the Four Mile Falls," and "Six Mile Falls." These are mentioned in their order, going up the stream from the Post Office.

The height of the falls is estimated at from ten to fifteen feet for each power. The first four, as above mentioned, flow back the Kenduskeag about one mile each; the last or Six Mile Fall flows back over two miles; giving an aggregate, from Drummond's dam to head of flowage of Six Mile Falls, of eight to nine miles.

No estimate given of the powers, in the annual work they would do, or in the annual work done. "The products, similar to our own, of powers on the river and streams north of the Kenduskeag stream, center at Bangor; and there is no convenient way of

making a separate estimate of the products of the power in use here. The Bruce mills, however, could saw from 2,500,000 to 3,000,000 feet of lumber annually."

There is a dam at each of the six powers except at Four Mile Falls. Four of the powers are improved with mills, to wit: Drummond's, McQuestion's, Bruce's and Hatch's mills. One of said mills manufactures lumber and plaster, grinds grain and has a trip hammer and wool carding machinery; one manufactures lumber and salt; the others, lumber only.

The mills run about seven months annually with full power; and for some time longer with less than full power.

Some of the machinery is of the best construction for economizing power. The Robbins wheel is used; also the old Stearns wheel and several others. The center vent turbine wheels are generally used; some reacting.

The powers are owned by Messrs. Morse & Co., (two powers,) Stetson & Co., (one power,) Merrill & Sons, (one power,) and J. R. Lumbert, (two powers.)

The Kenduskeag stream is naturally connected with a few small ponds; and, artificially, could be readily connected, by an inexpensive two mile canal, with the Pushaw pond, distant about three and a half miles from the stream. The Pushaw pond now covers an area of about twelve square miles; and, at little expense in the erection of dams, etc., could be converted into a reservoir of much greater area, wherein the water could be raised and held, five to seven feet above its usual level, to supply the Kenduskeag stream during drouth, or low water towards the end of summer. The stream is rapid, rises from eight to twelve feet during freshets, but is considered comparatively safe. The supply of water is not large during part of the summer.

The out-cropping and underlying rocks are slate, easily quarried and much used as rough building material.

The lay of the land at *all* the various falls is *suitable*, and at most of the falls extremely favorable, for convenient location of mills and workshops. A small part of the basin of the stream is wooded.

As, probably, none of the powers are for sale, it is presumed the proprietors would not be disposed to have surveys taken in part, or wholly, at their expense.

Effect of the improvement of the power. Four of the powers on Kenduskeag stream are engaged in the profitable manufacture of

lumber and in grinding salt, plaster and grain, as before stated. There are no *specific facts* obtainable as to the effect of the improvement of these powers upon the wealth and population of the city; but as Bangor owes her present prosperity principally to the successful manufacture of lumber, on the Penobscot river and its tributaries, it is presumable that these local manufactures have exercised an influence proportionate to their extent.

Market. Lumber is shipped from Bangor direct, to almost every port where there is a sale for it; but our principal markets are Boston, New York and the West Indies. The Penobscot river (when not closed by ice) is our usual, as well as best and cheapest, channel of transportation.

The soil is mostly clayey loam, with some small areas of gravel, and has generally a hard pan of clay. In most localities the soil is very retentive of water; and is relieved only by thorough drainage.

Bangor, and Brewer—Penobscot County.

Digested from the Returns of Mayor Wakefield of Bangor; and from the Survey of Hiram F. Mills, Engineer of the Hydrographic Survey for the Eastern Division.

[See also "Bangor"; and "Brewer."]

ONE POWER.

"Treat's Falls," on the Penobscot river, one mile above the harbor proper of Bangor, and within one mile of the city Post Office. The falls are now flowed by high tide, but to what depth is not stated. The total range of the ebb and flow in the harbor one mile below, is from twelve to eighteen feet; range from lowest to highest water on the river proper (above tide) about twelve feet. A dam fifteen feet above mean high tide will pond the water back about four miles. The privilege is owned by Messrs. Leavitt, Weston, and others. For further information respecting the privilege I subjoin the statement (or the essential portions of it) of the Engineer of the Hydrographic Survey for the Eastern Division, Hiram F. Mills, Esq.

"The circumstances under which my determination of the volume of the river was made were these: In the spring of 1866 I examined the river and the men connected with the mills from Milford to Bangor, for the purpose of determining the least quantity that flowed in the river in the extremely dry seasons of 1864 and '65, and the greatest quantity in time of freshet. The latter I

succeeded in getting quite to my satisfaction, as one of the greatest freshets known occurred during my observations, when there was flowing ninety-six thousand (96,000) cubic feet per second.

The actual quantity flowing in the greatest drought could not at that time be determined; but I was fortunate in obtaining data by which I could, by measurements made at this time, determine the quantity actually *used* in that dryest time, and thus know a quantity which could, with certainty, be relied upon in an extreme drought, and one upon which estimates could be based with safety. This quantity I found to have been nineteen hundred and fifty (1,950) cubic feet per second, exclusive of that used at the sluice for passing rafts.

The quantity here excluded I could not at the time form a judgment upon, as the quantity required was not only that for passing the rafts through the sluice but over the rapids between the sluice and the race from the mills. This was evidently in excess of the quantity that would be required at a well constructed sluice at Treat's falls for the passage of rafts; hence I could report that at Treat's falls there would be supplied constantly through the twenty-four hours in the greatest drought, the quantity necessary for the passage of rafts, together with 1,950 cubic feet per second, that could be applied to manufacturing purposes; and having to report without seeing the river in its lowest stage, I could only, from the data gathered and my measurements express my confidence that the quantity that can be relied upon is in excess of this, probably twenty-five per cent., possibly fifty per cent.

This quantity was, however, the base of my computation of results, providing, of course, room for the use of any further quantity that could be realized.

With a constant fall of fifteen feet and no pond, the amount of power that could be derived from this water, would be, in gross 3,315 horse-powers.

With the proposed dam at Treat's falls to a height of fifteen feet above mean high tide with flash boards two feet high in time of drought, the above amount used in connection with the pond and so much of the tide as can be used to advantage, will furnish during the working hours of the dryest day a power in gross of nine thousand (9,000) horse-powers, leaving the surface of the water at evening, level with the top of solid dam.

During the night the pond will fill to top of flash boards, besides allowing the constant use of 1,473 horse-powers.

The advantage that can be taken of the tide in connection with the large pond above the dam, with the use of turbine wheels is shown in this increase of power from 3,315 horse-powers to 9,000 horse-powers. This result is derived from calculating the experience of the worst day of a dry season in which the circumstances would be, 1,950 cubic feet of water per second being supplied by the river, and high tide a half hour after starting the factories in the morning, the pond being full to top of flash boards.

This is one of the many cases in which in an unimproved river the quantity of water flowing and the fall are items by themselves quite inadequate to present the capabilities of the river for the development of power.

The 9,000 horse-powers that can be derived from the Penobscot by the construction of a dam at Treat's falls, can be increased to 13,500 horse-powers at this point by constructions up the river, similar to those upon the Merrimack.

The site selected for the dam at Treat's falls is underlaid by a continuous ledge of good quality throughout, and there is no question of the practicability of constructing a dam there which shall be permanent, and never require repairs that will interfere with the daily use of the water of the river.

The length of the overfall designed is eight hundred and twenty-eight (828) feet. The total length of canals will be a little less than half that in Lowell to supply the same power to the same area, and the expense of constructing them here will be very light.

The wheels will deliver their water directly into the river, thus obviating the expense of constructing long races at a low level.

The area for factory sites directly below the dam, is ample for the use of the power when fully developed, and remarkably well adapted for this use. Entire safety in time of freshets will be secured.

The material for foundations is very good, being, over the greater part of the area ledge at a convenient depth, and where not of ledge of hard gravel and clay.

Building stone of superior quality for foundations, is found in available positions in the immediate vicinity, and the excellent Brewer bricks are manufactured close at hand.

The expense of constructing factories on these sites will be unusually small, and there will be the great and unusual advantage of both railroad communication and of free navigation in deep tide water to and from the factory yards."

BARING—WASHINGTON COUNTY.

Digested from the Returns of C. F. Todd, Esq., of Calais.

ONE POWER.

"Baring Mills," on the St. Croix, three miles above the mills at Milltown, (Calais.) A dam extends across the river at this point, and gives about ten feet head at a high stage of the river. Improvements are as follows:

English side.	*American side.*
Six gangs; three single saws, six lath machines, three shingle machines.	One gang; one lath machine, one shingle machine, one carding machine (not in operation.)
Will cut fifteen millions of long lumber, fifteen millions laths, 2,500,000 shingles.	Will cut two million feet lumber, two million laths, one million shingles.

A building has recently been erected, forty by sixty feet, three stories high, for a woollen mill.

BARNARD—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

SEVERAL POWERS.

"Bear Brook" runs through the central part of the town for almost its entire length. It is a rapid stream, having a fall sufficient at several points for improvements. With properly constructed dams, a considerable amount of machinery could be run at many points along the stream the entire year, excepting perhaps in an extremely dry season which may occur once in many years.

There are a saw mill and grist mill in operation at one point. There are also a saw mill and shingle machine on the East or Main branch of the stream. There is also a saw mill in process of construction at Egery & Williams' slate quarry on the West branch of the stream. This stream is not half so large as Bear brook proper, or East branch; yet they expect to saw heavy lumber and run machinery for quarrying purposes.

There are also three more streams in the south and east part of the town about the size of the above mentioned West branch; names: Trout brook, Green brook and Wells brook. The Green brook will afford valuable power for quarrying purposes, as there are several slate ledges and veins along its banks.

The Brownville slate ledges continue through this town, and there are many other veins found. Some have not been touched,

others have been partially tested and found very promising, while there is but one thoroughly proved and in active operation, the Egery & Williams quarry, situated as above mentioned. It has been in operation about one year, and so successfully, that we presume it could not be purchased for ten times its cost one year ago. We believe the product to be fully equal if not superior to any slate in this country. There are specimens of slate about five feet square, and about one-fourth of an inch thick, as it came from the ledge.

There is an immense amount of lumber of all kinds usually found in this State, especially spruce, hemlock, cedar and all the hard woods. Hemlock is almost inexhaustable. We do not think there is another place in the State where the *Extract of Hemlock* could be manufactured with a greater certainty of success. Land is now very cheap in this town.

Bath—Sagadahoc County.

Digested from the Returns of James Wakefield, Esq.

THREE POWERS.

"Sewall's Mill," a tide power, fall thirteen feet, twenty horse-powers, will grind ten thousand bushels of grain, and saw 200,000 of lumber. One saw, operates eight months. Two wheels, H. Blake's patent, thirty and thirty-six inches in diameter each.

"Rogers' Mill," a tide mill on Whiskeag stream, sixteen horse-powers, will saw 300,000 of lumber. One saw, operates nine months yearly. Kendall wheel.

"Winnegance Mill Dam Company's privilege," a tide power, three hundred and thirty-three horse-powers, will saw 16,000,000 of lumber, operates nine months. Kendall wheel.

Market, Bath, Portland and Boston, by rail and sea.

Two-thirds of the above power (Winnegance) is in Phipsburg; one-third in Bath.

Beddington—Washington County.

[See Appendix.]

Belfast—Waldo County.

Returns of John H. Quimby, Esq.

TEN POWERS, AND MORE.

"Goose river, the largest stream in Belfast, empties into Belfast bay, directly opposite the wharves of the city, on the eastern side

of the harbor. It has a fall of 185 feet in three-fourths of a mile, the river running that distance over a ledge. It flows from a pond or lake called Goose pond, which lies in Swanville, six miles from Belfast, which pond contains thirteen hundred acres, with a great depth, and a large water shed draining into it. It is also fed by springs from its bottom which makes a steady supply of water during the entire year.

At the outlet of this pond, there is a solid stone dam, so that there never has been or can be any freshet upon the river to do damage to buildings or dams, that are or may be erected thereon. About one-half of the powers upon said river are now occupied.

First. At the mouth of the river near the bay, there is now in process of construction a stone dam, which, when completed, will be, on top, three hundred feet long and twenty feet wide; and twenty-six feet wide at the bottom, and thirty feet in height, built upon a ledge. The salt water flows at full tide at the face of this dam, ten feet, leaving a head of water in the pond at full tide of twenty feet, and at or near low tide of thirty feet.

There are also wharves being built upon each side of said stream, extending from the dam three hundred and twenty-five feet to the bay, one of which will be one hundred and forty feet wide; they will be of solid rock and gravel, and vessels drawing from twelve to fourteen feet of water can load or discharge at the wharves at the foot of this dam.

The pond at this dam will contain fifteen or twenty acres, and the main travelled road from Belfast to Searsport crosses the pond about fifty rods above the dam. The volume of water at this dam will be equal to one hundred and eighty-five horse-power, (this power being calculated upon a Turbine wheel about five feet in diameter. This privilege is not occupied.

Second. The next fall above on said river has forty-eight feet head, equal to eight hundred and fifty horse-powers, and is not occupied.

Third. The next above this has fifteen feet head, equal to one hundred and fourteen horse-powers, with a stone dam, and is occupied for a grist mill.

Fourth. The next fall above has fourteen feet head, equal to one hundred horse-powers, has a stone dam, occupied for manufacture of paper.

Fifth. The next fall has ten feet head, equal to sixty-two horse-powers, has a stone dam, is occupied for manufacture of paper.

Sixth. The next has eighteen feet head, equal to one hundred and fifty horse-powers, has a nice stone dam, is occupied for manufacture of paper.

Seventh. The next has ten feet head, equal to sixty-two horse-powers, has a stone dam, is occupied for an axe factory.

Eighth. The next has ten feet head, equal to sixty-two horse-powers, has a stone dam, is occupied for an axe factory, ("Whiting's axe factory.")

Ninth. The next has thirteen feet head, equal to ninety-two horse-powers, has stone dam, and is occupied for the manufacture of paper.

Tenth. The next and last, the "Mason dam," has a fall of twenty-five feet head, equal to two hundred and forty horse-powers, has a stone dam, and is unoccupied.

Those powers on the stream used for the manufacture of paper, are occupied by the Messrs. Russell, from the firm of William Russell & Sons, Lawrence. The axe factories of Messrs. B. Kelley & Son, and Isaac L. Dunton.

The power used for a grist mill with those below including the dam at the outlet, are the property of Hiram E. Peirce, Esq.

We have also several other small water-powers within the limits of our city, but none that in size or volume can compare with this, and they are mostly located at such points, that no heavy manufactory could be established upon them, and they are mostly occupied for saw, stave, shingle, grist and plaster mills.

Mr. Peirce, the gentleman to whom I am indebted for the statements regarding the powers on this stream, has a very full chart of it from its source to its outlet, drawn by Mr. Eddy, a skillful engineer, which would be placed before your committee if it was desired, I have no doubt.

Belgrade—Kennebec County.

Digested from Selectmen's Statement.

THREE POWERS.

First, at "Belgrade Mills"; the average height of fall is ten feet; one saw mill, one shingle machine, one grist mill, with three runs of stones, a corn cracker, &c., which have constant employment; also a factory for the manufacture of thread-spools and excelsior, which does a large amount of business, using annually 5,000 cords of birch and poplar wood.

This power is very inadequately employed, considering the great

supply of water and excellence of the location, it being situated at the outlet of Great pond, which is about eight miles in length, and has an average width of two and a half miles, and is supplied by North, McGraw, and other ponds, besides numerous large and small streams. This power is situated six miles from the Maine Central Railroad station at Belgrade.

Second, at the outlet of McGrath pond, at the present time undergoing improvement, there having been erected the present season, 1867, a building 40 by 50 feet, three stories high, intended for machinery of various descriptions; already in operation, saw mill, shingle machine, and saws for laths, pickets, &c., grist mill with two runs of stones, corn cracker, &c., with room and power for more mills during a portion of the season. Height of fall, ten feet.

Third, below the above powers, on the outlet of McGrath pond, was formerly occupied for a saw and shingle machine; is at present doing nothing, but with capital might add to our numbers and resources.

Belmont—Waldo County.

Digested from Selectmen's Returns.

THREE POWERS.

First, on "Tilden Stream," the outlet of Tilden pond; fall twenty-four feet in half a mile.

Second, on "Green Stream"; fall twenty feet in a half mile.

Third, on "Cross Stream"; fall fifteen feet in one-fourth mile.

The above streams are connected each with a pond two miles in circumference. Two mills upon them, which operate about six months. Capacity of the lakes can be increased by dams. One-fourth of the basin wooded.

Market, Belfast, by road.

Benedicta Plantation—Aroostook County.

Statement of the Assessors.

There is no water power in this plantation.

Benton—Kennebec County.

Digested from Selectmen's Returns.

FIVE POWERS.

The "Lower Falls," on the Sebasticook river, about half a mile from the south line of the town. Height twelve feet in half a mile.

Works all the year. Improvements, saw mill, grist mill, shingle machine, and a manufactory of brush-handles.

The "Upper Falls," on the Sebasticook river, half a mile above the Lower falls. Height ten feet in one mile. Works all the year. Improvements, saw mill and match factory.

The "Nine Mile Rips," on the Sebasticook river, about one mile above the Upper falls. Height from eight to twelve feet in one mile. No improvements. Could work all the year if improved.

"Hunt's Mill," on the Fifteen Mile stream. Height of fall nine feet, horizontal run one mile. No improvements.

"Hanscom's Mills," on Fifteen Mile stream. Height fifteen feet in a running distance of two miles. Improvements, gang and single saw, planing machine, last machine, shingle machine and tannery.

The mills on the Fifteen Mile stream operate about three-fourths of the year; the tannery all the year.

Machinery not of the best sort for economizing power. The Kimball wheel, Tuttle wheel and Atkins wheel are used; the last regarded the best.

The power on the Sebasticook could be greatly increased by the improvement of the ponds for reservoirs. An artificial reservoir of 1,000 acres could be readily constructed on Fifteen Mile stream, above Hanscom's Mills. This stream also connects with Albion pond.

No danger from freshets; range of water on the Sebasticook a a little over six feet; on the Fifteen Mile stream about six feet.

Rocks, granite and slate; excellent for building purposes. Lay of the land about the falls convenient for the erection of mills.

Value of Aggregate Products.—At Hanscom's Mills, $27,000; Sebasticook Lower Falls, $10,000; Sebasticook Upper Falls, $6,000.

The power if suitably improved will add very much to the wealth of the town; it has already to a considerable amount.

Accessibility.—The Sebasticook Upper and Lower falls are about two miles distant from the depot of the Maine Central Railroad at Kendall's Mills. Hunt's and Hanscom's are about four miles from the depot of the same railroad at Clinton. Lumber goes to Augusta and other points by water.

BERWICK—YORK COUNTY.

From the Returns of the Selectmen.

SIX POWERS.

The above are located in the order in which they are named below, the first four opposite the village of Great Falls, and the last two opposite the village of Salmon Falls, N. H. All on Salmon Falls river.

The first four are known as the "Great Falls" on Salmon Falls river, and the last two as "Salmon Falls." More definitely—

No. 1, the Mast Point Privilege.
No. 2, Great Falls Manufacturing Co.'s upper level.
No. 3, " " " " 2d "
No. 4, " " " " 3d "
No. 5, Salmon Falls " " upper "
No. 6, " " " " lower level.

The vertical descent is distributed as follows:

No. 1 is 8 feet fall; No. 2, 33 feet; No. 3, 33 feet; No. 4, 33 feet; No. 5, 19 feet; No. 6, 22 feet. Total, 148 feet, of which 107 are obtained in two miles, and forty-one in about fifty rods.

No. 1 is simply a feeder for the next three. It is filled by night and drawn down by day, and thus no water runs to waste by night. It is supplied by the reservoir ponds above, from which is drawn in twenty-four hours what the mills of the Great Falls Manufacturing Company use in eleven. This quantity is 409 cubic feet of water per second, which if used on a fall of eight feet would give an absolute power of, say 371 horse-power, but the great variation in the head renders it of little value for operations at the dam.

The above quantity flows to Nos. 2, 3 and 4 successively, and would give, say $\frac{409 \times 62.33 \times 33}{550} = 1{,}530$ horse-powers to each, or 4,590 horse-powers to the three. It then flows to Nos. 5 and 6, and would give respectively 880 and 973 horse-powers. As the thread of the Salmon Falls river is the boundary line between this State and New Hampshire, only one-half this power, or 3,221 horse-powers, is in this State.

The power on Nos. 2, 3, 5 and 6, say 5,913 horse-powers, is all taken up by cotton mills, and about a quarter of No. 4 by a small woollen mill. Three quarters of this, or say 1,148 horse-powers, are as available in this State as in New Hampshire.

The mills run all the year.

The wheels are turbines and breast wheels, and probably the

useful effect is two-thirds of the power expended, i. e., the power above given.

The first three privileges and the ponds mentioned below, are owned by the Great Falls Manufacturing Company, and the last two by the Salmon Falls Manufacturing Company.

The stream is fed by eight ponds, all used as reservoirs, and containing 3,759 acres, mostly in this State, an account of which should be found in the reports from the towns of Lebanon and Acton. The above are all the ponds connected with the stream. Dams are already erected as high as possible without serious damage to rail and highways.

Destructive freshets are unknown. By the exercise of its right of controlling the reservoirs, the Great Falls Manufacturing Company maintains a uniform stream the year round. In the spring freshets a rise of three feet is an unusual occurrence.

Underlying rocks, granite and trap. Brick clay is also abundant. No difficulty in locating mills, &c.

According to the published county maps, the area of the watershed actually tributary to these powers is about 145 square miles, of which perhaps an eighth may be covered with woods; but most of the large timber, say 50 feet 14 inches by 16 inches, has been cut.

As regards the effect of the improvement of the power, there was little more than a bare settlement before the building of the mills. Estimates from the census of 1860 show that in Berwick, Somersworth and Rollinsford, a population of about 9,000 has been brought together by the erection of mills on the falls above described.

Annual production in 1856, for example, 27,534,255 yards cloth, valued at the mills at $910,571,49.

Market, in Boston, which is reached by rail or by water after four miles of teaming.

There are several small powers in town, as Horn's saw mill, Goodrich's saw mill, Spencer's shingle mill, all on Little river; Guptill's saw mill and shingle mill on Beaver Dam brook; McIntire's sash, door and blind factory on Salmon Falls brook, etc.

Bethel—Oxford County.

From the Statement of C. C. Walker, Esq., and of the Selectmen.

SIX POWERS.

Five are situated upon "Alder Stream," which is the outlet of ponds covering 1,200 to 1,500 acres, and has a descent of seventy feet in one-fourth of a mile.

The upper power is Walker's saw mill; height of fall, twelve feet; works about five months in the year. With improved machinery could operate all the year. Owned by C. C. Walker. Proprietor wishes to sell.

Russell's Bedstead and Furniture Mill; height of fall eleven feet; works all the year. Machinery not economical of power. Capable of turning out with best machinery 10,000 bedsteads per annum. Owned by L. & L. W. Russell.

Walker's grist and flour mill; height of fall fifteen feet; three runs of stones; works all the year. Very superior building. Machinery good, but not the best for economizing power. Would grind 75,000 bushels per annum with best wheel. Owned by C. C. Walker. Proprietor wishes to sell.

Shingle and threshing mill owned by Hosea Ripley; fall six feet. Machinery of poor construction. Would saw 2,400,000 shingles with suitable wheel.

Fifth power entirely unimproved; fall about six feet.

All the above powers are situated within three or four rods of the Grand Trunk Railway, which runs beside the stream for some distance. They are all perfectly safe against freshets or ice, the stream being fed almost wholly by ponds. The largest pond could be raised four feet or more for a reservoir, at little expense.

Sixth, Chapman Brook power; fall twenty feet.

Granite abundant.

Market, Portland, by Grand Trunk Railway.

Biddeford—York County.

Returns without endorsement.

[See also "Biddeford and Saco."]

TWO POWERS.

Swan Pond Brook. No specifications.

Curtis' Brook. No specifications.

Biddeford and Saco—York County.

Digested mainly from the Returns of the Mayor of Saco.

[See also "Biddeford"; and "Saco."]

ONE POWER.

"Saco Falls Power," on the Saco river, four miles from its mouth and at the head of tide. There are two falls; the upper eight feet; the lower thirty-two feet; about one-eighth of a mile apart. The river is divided at the lower falls into two channels; the "main river" and the "east branch."

The ordinary low summer run of water is from 260 to 300 cubic feet per second. Saco reports that the "volume of the stream is not susceptible of any considerable increase by artificial reservoirs or augmentation of the capacity of the lakes, except at great expense." The Great Ossipee pond could be converted into a reservoir of great capacity, more than twice the area of the lake at present, but for the cost of flowage. The proprietors of the land on the lake are not willing to sell at prices satisfactory to the water-power companies, and the laws of New Hampshire afford no remedy. A dam at Hiram Falls also would keep back an enormous amount of water, but would flood extensive and valuable intervals in Brownfield, Fryeburg and Conway; accordingly, up to the present time neither of these improvements has been carried out. Freshets increase the stream fourfold. Total range of water ten feet on the dam.

The power at strictly lowest run resulting from 260 cubic feet per second on a forty foot fall is (nearly) 1,200 gross or 880 net horse-powers. If the volume specified be what can be commanded for each second of the whole twenty-four hours, the available power may be much greater than that above given, the water being held back by night and used by day. There is for nine months of the year a far greater sum of power than what is noted above; which may be made available by the use of steam power during the drouth season. The returns from Biddeford set the power at "300,000 spindles," but give no details or information in support or explanation of the assertion. It certainly cannot be rated at 300,000 spindles for average work and at the low run of water. How much credit is due to the estimate cannot be determined, for the returns of Biddeford bear no endorsement or signature.

Lay of the land good for building. Sites all surveyed. The best of granite within a mile.

Accessibility.—The falls are a short distance only from railroads to Portland and Boston; and as stated above, are at the head of tide, vessels drawing ten feet coming to the foot of the lower fall. River open to navigation eight or nine months of the year.

Improvements on the Saco side: On the upper fall a gang saw mill turning out 30,000 feet lumber per twenty-four hours; single saw 7,000 feet; box machines making 300 sugar-box shooks per day; heading machines capable of turning out 500 pairs hogshead heads daily.

On the lower fall and main river the York Corporation, 454 horse-powers. H. Temple, Agent, five mills, 25,000 spindles, capital stock $1,200,000; employing 300 males at an average of $1.50 per day; 600 females at $1.00 per day. Goods furnished, tickings, denims, pantaloon stuff, etc. Also on the lower fall, east branch of the river, a grist mill with three runs of stones; a plaster mill; a manufactory of carriage wheels; planing, turning; also unemployed water-power, 50,000 spindles thereof, available nine months of the year.

Annual production of all the powers in Saco: of the cotton manufactures $1,000,000; of the lumber manufactures $250,000. Power on the Saco side owned by the Saco Water-Power Company; Agent, Thomas Quimby, Biddeford. About forty horse-powers of steam-power are employed in Saco in tanneries and brick yard. Population of Saco, 6,000; six churches; thirteen school-houses; twenty school-rooms; expenses for schools, 1866, $7,456.02. Valuation, 1866, $3,358,460.

Improvements on the Biddeford side not stated. Power on the Biddeford side owned by the Laconia Company, Pepperell Company, and Saco Water-Power Machine Shop Company. Products for 1867 about $7,000,000.

Bingham—Somerset County.

Digested from Selectmen's Returns.

[See also "Bingham and Moscow."]

ONE POWER.

"Holway's Shingle Machine," on Fall brook. Works about one-quarter of the year.

Market, Skowhegan, and other points on the Kennebec.

Bingham and Moscow—Somerset County.

Digested from the Returns of Bingham and Moscow.

[See also "Bingham"; and "Moscow."]

ONE POWER.

"Goodrich's Mills," on the Austin stream. Three-fourths of the dam are in Moscow; the improvements consisting of saw, grist, shingle, clapboard and lath mills are in Bingham. Operates the whole year; but owing to a leaky dam and the porous character of the banks has to stop in a severe drouth.

Numerous and large ponds above on the stream, as set forth in the statement for Moscow. Freshets heavy. Slate rock abundant about the fall. Basin of the stream nearly all covered with forests.

Market, Skowhegan, twenty-five miles distant.

Blanchard—Piscataquis County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

Situated on Piscataquis river and Thorn brook. Number not specified. Named "Grand Falls," "Hatch Falls," etc. No information as to the respective location of these on the streams.

Numerous lakes in connection with the streams, all susceptible of improvement at little cost. Freshets harmless. Building stone abundant and good. Lay of the land favorable for use of the power. Market, Bangor; but "a railroad at Dexter next year, twenty miles distant, will carry it to that point."

Improvements: One dam, one saw mill, one shingle mill, one grist mill with one run of stones.

Bluehill—Hancock County.

Digested from Selectmen's Statement.

NUMEROUS POWERS.

Several are situated on the outlet stream of the "Four Ponds," which have a total area of about three hundred acres. These ponds can be flowed sufficiently to hold water to run two saws the entire year. The extreme length of stream and ponds is about 3½ miles. The upper pond is elevated about two hundred feet above the mouth of the stream. There are two falls *occupied* on the stream.

"Allen's Mill," at its mouth about 3½ miles from Bluehill village. An old-fashioned fly wheel. Can be run about four months in the year, and will cut about 300,000 feet of lumber.

About two miles from Allen's Mill, and about 1¾ miles from the village, "Grindle & Stover's Mills," saw mill and a shingle mill both on the same dam. The stave mill is propelled by a horizontal paddle wheel, and saws about 200,000 staves per year.

Several are situated upon the "Head of the Bay stream," running through the centre of the town and village. Said stream is

about six miles in length. There is an "upper dam," so called, about 1¼ miles from the mouth of the stream; which flows a meadow of about one hundred acres, and is used as a reservoir. The stream rises from its outlet, to said dam, one hundred or a hundred and twenty-five feet.

There are four mills on this stream, and situated on as many different dams, all within one hundred rods of its mouth; viz.: one saw mill, one grist mill, one shingle mill, and one stave mill; each having a head and fall of about twelve feet.

The saw mill is located at the mouth of the stream. Spiral wheel, and is capable of sawing about 200,000 feet of lumber per year. Probably it could be made to do one-third more work with a more modern constructed wheel. There is water enough to run the mills about one-third of the time.

One or more on Noyes' pond stream. Stream is connected with a pond of about fifty acres. A saw mill located at its mouth, old-fashion fly wheel. This stream affords an abundance of water for one saw, in the wet season of the year, but fails soon.

Some are located upon McHeard's stream. Said stream about 3½ miles in length, and is connected with a pond of about thirty acres; which is fed by springs and the draining of low lands; causing it to hold out most of the year. One saw mill, one shingle mill and one stave mill. The saw and shingle mills at the mouth of the stream on the same dam. Old-fashion fly wheel, and tub wheel, and run about half the time.

There are as many and quite as eligible falls unoccupied, on all the above named streams as are now improved.

"Tide mill," ten acres of pond, grist mill with two sets of stones, an elevator, cleanser and bolt. Horizontal paddle wheel, and, with ordinary tides, has sufficient water to drive all its machinery.

About two hundred rods south of the tide mill, is situated "Blue-hill Falls," so called. This, as a tide-water power, is probably unsurpassed in the State. Here is the full flow of the tide rushing through a passage about one hundred and seventy-five feet in width, at high water mark, into a basin or pond, about two miles in length and half mile in breadth. Tributary to the pond are the Four Ponds stream, above named, and one other stream nearly as large, besides several smaller ones. This fall can be easily dammed, there being abundance of good granite within one-fourth of a mile.

BOOTHBAY—LINCOLN COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, at the outlet of Adams' pond, a saw mill and carding machine. Former operates four months.

Second, at the outlet of Reed's pond.

Third, on Mill-Cove stream.

Artificial reservoirs of medium capacity are feasible. "Freshets increase the power three fold." Suitable rocks for building.

BOWDOIN—SAGADAHOC COUNTY.

Digested from Selectmen's Returns.

NINE POWERS.

First. On Eaton stream in the east part of the town, a carding mill, a fulling-mill and threshing machine. Net profits last year, $600. The fall is about fifteen feet.

Second. Below, on the same stream, a very good privilege with an old grist mill not used, with a fall of twelve feet. Considerable business could be done if improved. Either of the above would have sufficient water to run one-half of the time through the year.

Third. In the northeast part of the town, a saw mill and shingle machine, on Dead river a tributary to Cathance river. Fall about eight feet. Sufficient water, if the dam were good, to saw three-fourths of the year. There are large quantities of hemlock, spruce and all kinds of hard wood near this mill. In the present state of the mill and dam as respects repairs, about $400 to $500 worth of business per year is done.

Fourth. A grist mill, about two miles below the above, on the Cathance stream, known as the "Huff Mill." This privilege has a head of about ten feet, and is considered the best mill privilege in the town.

Fifth, Sixth, etc. A privilege below is as good or better than the foregoing. There are two or three good privileges for mills of any kind on this river, with enough water to carry a saw mill three-fourths of the year.

Eighth. A grist mill near the centre of the town at the outlet of what is called Cæsar's pond; fall about ten feet. Mill operates about half of the time.

Ninth. A saw mill, grist mill, shingle machine, picket machine and threshing machine on Purington stream; fall about seven or

eight feet; water enough to carry most of the machinery about one-half of the time. Annual production is not far from $1,500 per year.

Bowdoinham—Sagadahoc County.

Selectmen's Statement.

The water-power in this town is unimportant.

Bowerbank—Piscataquis County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

Situated on Mill brook and Long pond stream. None are employed.

Capacity of connected lakes and ponds can be increased to a great extent. Abundant and good rock for building. Basin of the streams wholly covered with woods.

Market, Dover, by road.

Bradford—Penobscot County.

Digested from Selectmen's Returns.

TEN POWERS, SMALL.

Four on the West branch of Dead stream, each of which will run one saw for half the year. One in the north part of the town. Three in the east part of the town. Two on ——— brook in the west part of the town, which will operate about four months in the year.

There are no lakes or ponds in the vicinity. Total products, in value, about $8,000.

Market, Bangor.

Bradley—Penobscot County.

[See Appendix.]

Bremen—Lincoln County.

Digested from Selectmen's Returns.

FOUR POWERS.

First and second, on the outlet of Muscongus pond. The upper power is about one mile above the lower, and the lower is at the head of tide. The stream has a fall of forty feet in a running distance of one mile. The upper power is improved in a saw mill and

grist mill. The lower power is not used. About 1,500,000 of lumber are cut annually. Mills operate about seven months of the year.

Third, a tide power, known as "Keen's Mill Pond," near the centre of the town. Not improved.

Fourth, a tide power, known as "Broadcove Mill Stream," in the northern part of the town. Not improved.

The tide flows and ebbs about ten feet. Muscongus pond is one mile long and a half mile wide. It can be made a good reservoir. Artificial reservoirs are feasible at small expense. Rock, mostly granite. Basin one-half wooded.

Market, all points by water.

Brewer—Penobscot County.

Digested from Selectmen's Returns.

SEVEN POWERS.

These all are situated on Segeunkedunk stream, so called, within a running distance of two and a half miles. The height of the falls, beginning at the lower, is twenty, fourteen, four, twelve, ten, fourteen and twelve feet, respectively.

There are one gang of saws, two single saws, and a shingle mill, all upon tide water at Brewer Village. The power at tide water is estimated at 150 horse-powers; an excellent site for cotton or woollen factories.

The shingle and grist mills operate all the year; the saw mills about eight months. Breast wheel employed. Power is owned by Daniel Sargent, 2d, of Brewer.

Stream is connected with two ponds, one 3·5 by 1 mile in extent, the other 1 by 1 mile; it has also the flowage of 2,200 acres of meadow. The large pond has a dam ten feet high; could have four feet more head.

Freshets harmless; stream very constant; in full working condition even when the mills on the Penobscot are stopped for want of water.

The saw mills cut about 4,000,000 feet of lumber annually. The improvement of the power has had as yet no marked effect upon the wealth or population of the town, because quite unequal to the capacity of the stream.

Market, all points by sea; vessels load at wharves close by the mills.

BRIDGTON—CUMBERLAND COUNTY.

Selectmen's Statement.

TWENTY-TWO POWERS.

First to Twelfth, inclusive. On Stevens' brook, the outlet of Crotched pond; capable of working machinery from that of a saw and grist mill to a large woollen factory. A dam at the outlet of said pond will reserve say five feet of water. First; dam for driving machinery at "Cumberland Mills," twelve feet fall. Second; dam, four feet fall; sash and blind manufactory, both owned by R. Gibbs. Third; dam, saw mill, carriage factory, and foundery; owned by B. Walker. Fourth; dam, twelve feet fall, "Pondicherry Mills," machine shop, and grist mill, three runs of stones; owned by Storer Bros., Davis & Littlefield. Fifth; at "Johnson's Falls," dam twelve feet; saw mill. Sixth and seventh; sites for two dams, fall twenty-eight feet; unimproved. Eighth; dam, twelve feet fall, "Forest Mill, No. 1." Ninth; dam, twelve feet fall, "Forest Mill, No. 2," all owned by Taylor & Perry. Tenth and eleventh; sites, fall twenty-five feet; unimproved; owned by S. F. Perley, Esq. Twelfth; site, twenty feet fall; owned by H. Little; unimproved. Total fall about 150 feet in one and one-half miles.

Thirteenth and Fourteenth. On Wood's pond outlet. First dam ten feet fall; saw and grist mill, owned by Berry Bros. Second dam ten feet fall; grist mill, owner not known to the reporter.

Fifteenth and Sixteenth. At North Bridgton. First dam twenty feet; bedstead and furniture factory, saw and grist mill, owned by Hon. L. Brown. Second dam sixteen feet fall; tannery and shingle mill, by F. W. Tarr.

Seventeenth and Eighteenth. On Bear brook. First dam twelve feet fall; saw and grist mill, by A. Sampson. Second; site, fall not reported; umimproved; owner, E. Adams.

Nineteenth. On Adams' pond outlet, South Bridgton; dam twelve feet; carriage factory, by O. J. Libby.

Twentieth, Twenty-First and Twenty-Second. On Ingalls pond outlet, three dams. First, twenty feet fall; saw mill. Second, eight feet fall; grist mill, by Fosters. Third, ten feet; machine shop, by Knapps.

The dams on Stevens' brook are chiefly of granite laid in cement; those on the other streams with very few exceptions are permanently made of stone and gravel. Generally the best of machinery is employed.

Annual production of "Cumberland Mills," $————; "Pondicherry Mills," $————; Forest Mills, $225,000; sash and blind manufactory, $5,000; Brown's manufactory, $3,700; all others, say $15,000.

Estimate of amount of water in Stevens' brook, from Crotched pond to Pondicherry Mills, 300 square inches, under twelve feet fall; including said mills to Long pond, 450 square inches, under twelve feet fall. The Woods pond outlet falls into Stevens' brook above Pondicherry Mills. Power of the other streams is sufficient to drive all the machinery that is employed during ordinary seasons.

Water Wheels.—Cumberland Mills use Howe's pattern; Pondicherry, Laffel's; Forest No. 1, Warren's; No. 2, one of their own construction, claimed by them to be superior to any other; Brown and Tarr use the overshot; Berry, the centre vent; Foster, Reynolds' pattern and overshot.

Stevens' brook is supplied by Crotched pond, area of about three square miles, and that by Stevens' pond, of one square mile. Also by Woods pond, of one and a half square miles, and that by another of fifty acres. Brown's is supplied by Moose pond, area one and a half square miles. Sampson's by Bear pond, of one square mile. Libby's by Adams' pond, three-fourths square mile. Reservoirs of 100 to 500 acres could be made, and at trifling cost. Several of said ponds could be raised. Perhaps fifty per cent. of above power is in use. There is a constant supply of water, with one or two exceptions, for all the powers named in the foregoing list.

The rock is of common boulders in the vicinity of said powers, although granite has been obtained at reasonable cost, *so far*, for all building purposes. Building materials used thus far have been principally of wood above the basement. Clay in abundance for making the best of brick.

Fifty per cent. of the basin of the streams covered with forest. Lay of land for building, above the average.

As regards the effect of the improvement of the power, we have reason to believe that it has created thriving villages in the midst of a good farming community, making a market for a large per cent. of their productions, which would otherwise necessarily have been sent from home to sell or exchange. In this we care not to venture an estimate in figures.

By the description we have in brief given of the water-power of

this town, it will be readily seen that we have an advantage over many large streams supplied only by brooks and rivulets from the mountain sides and meadow springs, as our ponds and in some instances chains of ponds serve as reservoirs, affording, or able to afford at trifling expense, a never failing supply of water for a much increased amount of machinery. And, providing the contemplated Ogdensburg road should find it for their interest to come within hailing distance, we see no just cause why Bridgton should not make an average market and manufacturing town and perhaps at no distant day the shire town of a new county.

Our market consists of Bridgton and adjoining towns. Portland and Boston; conveyance, canal in summer, team and railroad in winter.

"We find by some years' experience in town matters, that a feeling prevails with some classes, farmers in particular, that all manufacturing companies should be assessed at a much higher rate on the amount invested than is usually the practice. One of our most extensive mills has within the last two years been erected; the amount thus expended might have been invested in bonds entirely exempt; instead thereof these enterprising men have built a factory worthy the pride of any thriving community. This has caused an increased market for our farm products; first, laborers are consumers of food, and their mill needs our wool, which has a tendency to bring trade from adjoining towns, establishing a centre of trade; as that centre increases, in a much larger ratio is the increase of circumference."

Bridgewater—Aroostook County.

Digested from Selectmen's Returns.

FIVE POWERS.

First, the "Bond Power," on the Presque Isle stream of the St. John, forty rods from Maine State line. The dam is chiefly natural, and the artificial part rests on solid rock. There are on this privilege a grist mill, saw mill, and two shingle machines. Properly managed, this power would run twelve months in the year a grist mill, a gang saw mill, two shingle machines, a machine shop, and a large woollen and cotton factory. Immediately above the mill the Whitney brook connects with the stream forming a part of the mill pond. There are no lakes of any account on the Presque Isle stream.

"The power is badly managed. An old leaky dam that has been patched up these thirty years, only stands to break part of the current, and consequently throws very little water into the flume more than would naturally flow there without any dam."

Second, Whitney brook power, a natural privilege just across the point made by the Presque Isle stream and Whitney brook. A good chance to build a dam (which would be very short) on a rock. Good flowage and plenty of lakes at the head of the brook. This would drive the machinery of a large woollen factory, machine shop, &c., all the year.

Third, Fourth, and Fifth, are good privileges on the Presque Isle stream, from one to four miles above. All of these are capable of supplying water for a small amount of machinery nearly all the year, if properly managed. Large lots of lumber of the best quality on these streams, which would furnish work for two saw mills twenty years.

Brighton—Somerset County.

Digested from Selectmen's Returns.

FOUR POWERS.

First and Second, are the Upper and Lower "Weeks' Falls," on the Wesserunsett river. The Lower fall has thirty feet descent in four rods, with a stone dam at the head, no mills. Upper fall has a saw mill, grist mill and shingle machine.

Power sufficient to carry all the machinery the year round. On the lower fall a breast wheel twenty-four feet may be used.

Third, the Cooly Falls, on the same stream.

Fourth, on the Wyman brook. Unimproved.

The Wesserunsett is fed by Weeks' pond, which has a dam six feet high at its outlet, and has an area of over a square mile; range of the stream, from lowest to highest, four feet. Sites for mills most excellent. Basin thickly covered with woods.

The power has not benefited the town greatly because not put to use, perhaps ten per cent. in all. Annual product about $1,000.

Market, Skowhegan, by road.

Bristol—Lincoln County.

[See Appendix.]

BROOKS—WALDO COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS.

Four of the above are situated on the Marsh stream, two on Sawyer stream, and two on the Ellis stream.

The average height of the falls is fifteen feet. Power not all improved. Rose wheel used. Mills operate about seven months. Six or more saw mills, one grist mill, with several shingle mills, machinery for wood turning.

The Ellis stream is connected with a pond and affords water most of the year. The pond might be raised considerably more by a dam. An artificial reservoir of large extent might be constructed on the "Sawyer stream," which would also benefit all the powers, but one, on the Marsh stream.

Freshets are heavy. Streams rise and fall suddenly except the Ellis. Not much forest on the basin of the streams. "The town is not worth half as much as it would have been if a mill had never been built in it."

Market, Belfast, seven miles, by road.

BROOKLIN—HANCOCK COUNTY.

Selectmen's Statement.

No water-power in this town. Fisheries and porgy oil manufacture, the leading industries.

BROOKSVILLE—HANCOCK COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, at the outlet of Walker's pond, which is two miles long and three-fourths of a mile wide. A woollen factory with six looms. A grist mill and shingle mill operated here several years until they were burned. Now a carding machine, shingle and stave machine. Fall fifteen feet in twenty-five rods. Power only partially used.

Second, "Parker's privilege," at the outlet of a pond, operates a saw mill, grist mill and shingle mill. Operates only one-half the year when the water is drawn off the surrounding meadows.

Third, "Blodgett's privilege," at the outlet of two ponds. It is

so much elevated above tide that the water can be used three times. Now entirely idle, dams all gone.

Fourth, "Smith's Cove," a tide mill. Formerly a saw mill upon it, and a grist mill that could grind one hundred bushels a day. Mill now idle. Can operate sixteen hours out of the twenty-four.

Fifth, "Bakeman's privilege," a tide mill, capable of doing a large amount but now idle. Nature almost completed the dam. Good building and machinery upon it. Can operate sixteen hours out of the twenty-four.

Sixth, "Davis' Narrows," four miles from Walker's. A dam at this point would control the waters of five powers, each of which is now employed for milling. There is a bridge at the Narrows. Granite abundant within a mile for building purposes. "If improved this would make one of the cheapest and best powers in eastern Maine."

The capacity of the ponds above mentioned can be readily increased by the use of suitable dams, except Walker's which would not rise much. Machinery all very inferior. Freshets harmless. Lay of the land about Walker's and Davis' could not be better.

Market, any point accessible by sea, as we are almost entirely surrounded by tide water.

Brownfield—Oxford County.

Digested from Selectmen's Returns.

TEN POWERS.

First, "Tyler Mill," in the village, on Shepard's river. Can grind seventy-five bushels of grain daily, and for four months of the year saws 2,000 feet of boards, and cards into "rolls" about 7,000 pounds of wool.

Second, the "Tannery Mill," forty rods below. Three tons of leather per week.

Third, "Thorn & Seavey Mills," one-half mile from No. 1, on same stream, 8,000 shingles per day for six months, 3,000 boards daily for four months, and fifty bushels grain ground daily through the year.

Fourth, at outlet of Ten Mile pond, 100,000 boards and staves yearly, valuable power, only partially improved.

Fifth, "Marston Mills," on the Little Saco river; same amount of business as at No. 4, though a much smaller power.

Sixth, "Linscott's Mill," on south branch of Shepard's river; does about the same as No. 4.

Seventh, "Cram & Whitney Mill," on Shepard's river; grinds 2,000 bushels, saws 200,000 shingles.

Eighth, "Hurd & Blake's Mill," on south branch Shepard's river; not employed, formerly sawed 50,000 feet yearly.

Ninth, "Bradeen's Mill," southeast branch Shepard's river; cabinet and furniture manufactory.

Tenth, "Brown's Mill," tub and kit factory.

The Ten Mile pond is one mile long and one-half wide; can be increased greatly. Artificial reservoirs feasible. Shepard's river is variable, but no damage need occur. Volume in freshet eight fold. The powers can be doubled by employment of the best machinery and proper use of the water. There are no considerable *falls*, only rapids; the dams vary from six to fifteen feet. Rock granite, good for rough work. Lay of the land excellent for all purposes. Basin one-eighth wooded.

Market, Portland, 40 miles, by road; railroad looked for.

Brownville—Piscataquis County.

Digested from Selectmen's Returns.

THREE POWERS.

First, at the village, on Pleasant river. Head and fall twelve feet. Saw mill, shingle mill, clapboard machine and grist mill. Works all the year.

Second, a power on Pleasant river, below the village and near the south line of the town. Not improved. No further information.

Third, a power on Pleasant river, about four miles above the village. No further information.

The river connects with a number of large ponds and its manufacturing capacity could be very greatly increased and at little expense by the use of these for reservoirs. "There is water enough to carry a great many wheels."

The well known slate quarries are about half a mile distant from the village, and building stone of all dimensions can be procured thereat in any quantity.

Market, Bangor.

Brunswick—Cumberland County.

From Selectmen's Returns.

[See also "Brunswick and Topsham."]

ONE POWER.

"Gatchell's Mills," a carding machine, carding wool in its season, and not much done.

BRUNSWICK—CUMBERLAND COUNTY; TOPSHAM—SAGADAHOC COUNTY.

Digested from the Returns of the Selectmen of the Towns, and from Col. Loammi Baldwin's Report of Survey.

[See also "Brunswick"; and "Topsham."]

TWO POWERS.

First, the "Pejepscot Falls," on the Androscoggin river, at the head of tide; total height of fall about forty-one (40·83) feet above common high tide; whole horizontal distance, 1,980 feet. "The fall can be increased to fifty-five feet by raising the upper dam, and the damage from flowage would be very slight, the land on both sides of the river for eight miles to Little River Village being mostly high."

Formation of the Falls.—The natural falls consist of coarse graphic granite and gneiss. The rock upon the middle fall projects above the water at several points, serving as natural abutments to the several sections of the dam. The lower fall has an island near middle of stream, Shad Island. There are three pitches. The lowest has a vertical descent of about 15·49 feet, the middle of 14·04, the upper of 11·30.

Volume of Water.—In the survey of the privilege made in the year 1835 by Col. Loammi Baldwin, the run was estimated to be 4,425 cubic feet per second. This was doubtless correct for the time of measurement, but is greater than the *low water* run. The low water run at Lewiston is 1,566 cubic feet per second, this figure having been determined by numerous measurements and actual use for fifteen or more years. After making allowance for the contributions of the Little Androscoggin, Little river, and other smaller streams below Lewiston, it is impossible to conclude otherwise than that the river must have been considerably above its low run at the time of the estimate referred to, the only alternative being (and this is not admissible, the skill of the investigator being taken into account,) that serious errors were made in the measurement. In corroboration of this view the following facts are stated: The low water run at Augusta, on the Kennebec, is 130,000 cubic feet per minute, and the tributary area is about 5,000 square miles; whereas the total territory contributing to the Androscoggin at Brunswick is somewhat less than 4,000 square miles; yet Baldwin's estimate makes the run at the latter point 265,500 cubic feet per minute. The low run at Saco is 15,000 to 18,000 cubic feet per minute, with about one-third the basin area of the Androscoggin at Brunswick. The low water run at Lowell, with nearly

5,000 square miles of tributary country, is 215,760 cubic feet per minute, all the great natural reservoirs of the Merrimac having been improved for storage purposes. The low water run at Brunswick will not probably be found to exceed, possibly not to equal, 120,000 cubic feet per minute.

Col. Baldwin's measurements were made in part upon the 12th, and in part upon the 14th of October, and during these two days the river fell off 2,000 cubic feet per second, as shown by his estimate. It is not impossible that it had been swollen by rain-fall in the upper part of its basin, and was in process of return to its ordinary low run volume at the time of the measurements. It is worthy of notice in this connection, that measurement of the Androscoggin was made at Lewiston during July, 1835 by the engineer of the company for which Col. Baldwin's explorations were made, and the figure arrived at for the volume was 6,887·29 cubic feet per second, which is over four times the *low water* run, as since found at that point, though it was probably correct at the time of measurement.

The above incidents show with what extreme care investigations of this sort have to be conducted, and with what precautions as to the stage of the river, to reach reliable and valuable results. Especially is it necessary, it may be added with reference to explorations had in view in this survey, to exercise precaution in making measurement of streams at points below manufacturing establishments, by which the flow of the water below is greatly modified, according as the mills are in operation or not, and the water therefore alternately freely delivered by day and ponded back by night. They further show how peculiarly necessary it is that streams be measured at the actual low stage, and thereat only with reference to reaching results of practical or the highest practical value. A shower of an hour's continuance on the basin of a stream of the character of the Saco or Androscoggin, taking place just before an exploration of its volume at a point below, might well nigh double the inferred working capacity of the river. Such measurements need to be many times repeated, at different times, and better if during different seasons of the year.

Amount of Power.—The amount of power corresponding to 4,425 cubic feet per second on a forty-foot fall, is 14,720 net horse-powers. We are not surprised therefore to read in Col. Baldwin's report that the power at Brunswick is sufficient to carry 135 mills as large as the Hamilton mill at Lowell. By this is meant of course the

power as he found it at the time of measurement. If the low water run shall be found to be 2,000 feet per second, the power due to this will be about 8,528 gross or 6,800 net horse-powers, or 408,360 spindles; it being understood that the height of the dam shall be, as it now is, such as to give about forty-one feet fall, and the lakes at the source of the river continuing unimproved, as they now are, for storage purposes. A dam securing a fall fifty-five feet in height would give a gross power of 11,440 horse-powers, a net power of 9,130 horse-powers, or 547,800 spindles, and for nine months of the year a very much greater power.

The minimum power at this point, as at others above, is capable of very great increase, at least trebled, by the improvement of the great natural reservoirs upon the river. This I shall be able to set forth more fully in the next report. It is a power, at the lowest estimate that can be put upon it, of the first magnitude.

Lay of the land excellent for the location of mills and factories, there being a broad natural slope below the falls of sufficient extent to accommodate any required number of constructions. Colonel Baldwin judges the best sites to be upon the left bank. Advantages for the conveyance of water by canals, first-class. The stone in the immediate vicinity of the falls is suitable for foundations and such coarse work. Building granite of excellent quality within two miles, and excellent clay for bricks close at hand. Lime burned in town.

The privilege is owned by about fifteen different proprietors, resident in the vicinity.

Improvements.—Two dams constructed of wood, leaky at present, as indeed they always have been. The upper or third dam rotted down and was carried away a few years ago. The power has been so much in surplus that the leakage has been of no importance. The machinery employed is by no means of the best construction for economising power or in other respects. This statement does not apply, however, to the cotton mill. This is located on the middle dam on the Brunswick side, a natural site for a mill of 50,000 spindles being close by it on the same dam, and is the property of the Cabot Manufacturing Co., organized 1857, capital $400,000; mill recently enlarged, best of machinery put in, 25,000 spindles, employs about 500 hands, manufactures fine and coarse sheetings and drills. The company own thirty acres of land on the two sides of the river, and seventy-five tenements. Agent, Benjamin Greene, Brunswick. There are also on the Brunswick side two flour mills and

two saw mills. Upon the Topsham side are one flour mill and two saw mills. Various small machinery, in addition, is run upon both sides of the river. A very small proportion of the power is now used. It was formerly employed in manufacturing lumber, thirty saws being used; now only four single saws and a gang.

Accessibility.—Brunswick and Topsham are connected by railroads with Portland, Bath and the interior. Vessels of 1,000 tons can come within five miles of the falls, but from that point would be obliged to "lighter up," the channel being obstructed with shifting sands. The river is "frozen for four and a half to five months yearly." From the falls to Casco bay is three miles, the country a dead level; a railroad could be built at small expense, opening upon excellent harborage.

Second power, Quaker Mill pond, on the Androscoggin, three miles above the Pejepscot falls, will furnish power for a number of saws. It may in time serve a purpose of great importance as a reservoir against the *day drouths* at Brunswick, caused by the stoppage of the run at Lewiston by night in the low water season.

"Any parties who come amongst us with a view to the improvement of our water-power, will meet a cordial reception and substantial coöperation from both sides of the river."

Buckfield—Oxford County.

Digested from the Selectmen's Returns.

SIX POWERS.

First. Three privileges at Buckfield village, on the west branch of the Twenty-Mile river. Total descent of the fall, sixty feet in one-fourth of a mile. Power owned by G. H. Harlow & Co.

Second. A power at North Buckfield, owned by Turner & Co.

Third. A power on the east branch of the Twenty-Mile river, owned by Andrews, Morrill and others. Improvements, three dams, a flour mill, saw mill, carding mill and shingle mill. Centre vent wheels employed.

Streams connected with seven ponds, which if improved would double the power. The improvement can be easily and cheaply effected. Part of the mills work all the year; the saw mill, fall and spring only.

The above powers are as a whole only partly improved.

Market, Portland and Boston, by rail.

Bucksport—Hancock County.

From the Statement, and from a Plan of the Water-Power, Presented by W. H. Pilsbury, Esq., at the Request and with the Endorsement of the Selectmen.

NINE POWERS.

A valuable stream of water runs through the eastern part of Bucksport village to tide water, (see plan accompanying this paper.) It is valuable because, first, of the number of times the water can be used over—the banks being high and formed of rocks; because secondly, of its immediate contiguity to navigable tide water; because thirdly, of the supply of water; because fourthly, of the readiness and ease with which all the requisite building material may be obtained—the wood being at hand, the brick within a few miles, and plenty of granite by water about five miles distant, from quarries which supply the material for Fort Knox and for other government works both in and out of the State; and because fifthly, of the opportunity for building, especially on the eastern side of the stream, from dam No. 8 to tide water in the harbor.

First. No. 1 dams the pond making the head water. The dam may be raised three feet with but very little expense, and with little damage; then the head will be ten feet, and the pond will cover, at low water, about one hundred and fifty acres, and at high water at least three hundred and fifty (350) acres, with a very short dam.

The accompanying plan will show the number of dams that *may be* erected—with the *distance* and *fall* from dam to dam and to tide water. The dams, less one, have all been erected, though two are now in a state of decay and have been abandoned.

From the plan referred to I digest as follows:

Second, two hundred and thirty rods below the first, and just below Centre street in the village, fall nineteen feet.

Third, eighteen rods below the Second, eleven feet fall. A small building upon it which has been used as an edge tool factory.

Fourth, eighty-two rods below the Third, fall eight feet. Used for a tannery.

Fifth, fifteen and three-fourths rods below, fall fifteen feet. Dam in contemplation.

Sixth, eight rods below, fall twelve feet. Dam in contemplation.

Seventh, four and one-third rods below, fall thirteen feet. Grist mill, with a sixteen-foot overshot wheel.

Eighth, eight rods below, eight feet fall. Clothing mill and carding machine, ten-foot breast wheel taking the water on the top.

Ninth, eight rods below, nine feet fall. A saw mill that takes up logs from tide water. From the ninth to the tide ten rods and sixteen feet fall.

With very small expense the water of another pond in Bucksport can be turned into pond made by dam No. 1, and by damming the pond referred to (a very short dam) this water can be held in reserve. This addition will make the stream perpetual, and will furnish water to run a saw mill the entire year.

Burlington—Penobscot County.

Selectmen's Returns.

In the town of Burlington there is but very little water-power, and no mills of any description.

Burnham—Waldo County.

Digested from Selectmen's Returns.

[See also "Burnham and Clinton Gore"; also "Burnham and Pittsfield."]

THREE POWERS.

First, on the Twenty-Five Mile stream, one-fourth of a mile from the Sebasticook river, in the northwesterly part of the town. The falls were formerly known as the Furguson Falls, (not to be confounded with the Furguson Rips on the Sebasticook between Burnham and Clinton Gore,) and have a six-foot fall within the running distance of ten rods. No estimate of the power by measurement has been made. It works a tannery, grinding from 3,000 to 4,000 cords of bark, and tanning about 35,000 sides of leather per year; two shingle machines, sawing from 400,000 to 500,000 shingles, running from eight to ten months; also a saw mill, sawing from 800,000 to 1,000,000 feet of lumber, running from four to six months.

The machinery is of very good construction. The wheels used are the Stearns and Rose. The stream is fed by the Twenty-Five Mile pond, which is four by two miles in extent. No destruction by freshet. Total range from low to high water twelve feet. The rock about the falls is granite, suitable for building purposes. The land very convenient for shops and more mills. About half the basin of the stream covered with forest.

Market, Portland, Boston and Bangor, reached by railroad.

Second, situated in southeasterly part of the town, on Bog brook, so called, has three feet fall in running distance of four rods; a saw mill, sawing from 200,000 to 400,000 feet of lumber, and a shingle machine, sawing from 200,000 to 300,000 shingles, using a Rose wheel. Works about four months in the year. Power could be greatly improved by buying flowage, so as not to let off the water in the summer.

Third, situated in the northerly part of the town, on the Meadow brook, so called; three feet fall in the running distance of six rods; shingle machine, sawing from 400;000 to 600,000 shingles, running from three to four months in the year.

BURNHAM—WALDO COUNTY; CLINTON GORE—KENNEBEC COUNTY.

Digested from the Returns of Clinton Gore.

[See also "Burnham"; and "Clinton Gore."]

ONE POWER.

The "Furguson Rips," on Sebasticook river; ten feet fall in fifteen rods distance; one-half mile from the Maine Central railroad, one and one-half miles from the village of Burnham.

The Sebasticook being a river of considerable volume and fed by large ponds, the power upon it is regarded as of large value. No part of this privilege is employed.

BURNHAM—WALDO COUNTY; PITTSFIELD—SOMERSET COUNTY.

From the Returns of Burnham and Pittsfield.

[See also "Burnham"; and "Pittsfield."]

TWO POWERS.

First, "Eel Weir Rips," on the Sebasticook river; fall eight feet in eighty rods; unimproved.

Second, "Thirty Mile Rips," on the same river; fall thirty-five feet in 480 rods. Velocity of current, one mile in thirty-two minutes.

Stream connected with numerous lakes and ponds, amongst them Newport pond, six by two miles, and Moose pond, eight by one miles. Total range of water, six feet; river very uniform in its volume.

BUXTON—YORK COUNTY.

Statement of the Selectmen, based upon the Survey of Daniel Barnett, Esq.

[See also "Buxton and Dayton," "Buxton and Hollis," also "Buxton, Hollis and Standish."]

FOUR POWERS.

Bonny Eagle brook furnishes the most important water-powers in Buxton, exclusive of those on Saco river. This brook is the outlet of Bonny Eagle pond. The volume of water at ordinary low water is nearly two square feet. The quantity for use might be considerably increased by a dam of three or four feet in height at the outlet of the pond, which could be constructed at inconsiderable cost, and with little or no expense for additional flowage. The pond contains about one square mile of surface. Upon this brook are two falls, furnishing excellent sites for mills suited to the capacity of the stream.

First. "Bog Mills," so called, about one-half mile from the pond. The whole fall here is about fifteen feet in a running distance of six rods. At the head is a dam of stone about eleven feet high. This power is now improved by a grist mill, a shingle, lath and heading machine. It is situated one mile from West Buxton village, at Moderation falls, and about the same distance from Bonny Eagle village.

Second. Near the mouth of the brook, about one-half mile below Bog mill. Fall fifteen feet in a distance of three rods. This was formerly occupied for a chair and furniture factory, now unoccupied. Situated by the road about one-half mile below Bonny Eagle village and one mile above West Buxton village.

There are also some small powers on Little river, as follows:

Third. Near Buxton Centre two powers are now improved, viz: "Leavitt's Mills," occupied by a mill for grinding corn, and by machinery for sawing staves and for making shingles. Here is a stone dam ten feet high; whole head and fall about eleven feet. Water-wheel, Howd patent. At lowest run not sufficient power to operate.

Fourth. About fifty rods below is "Ward's Carriage Shop"; fall fourteen feet. Water-wheel, a "Tuttle centre vent." Not sufficient water to carry the machinery at lowest water.

Buxton and Dayton—York County.

From the Joint Statement of the Selectmen of Buxton and Hollis, Based upon the Survey of Daniel Dennett, Esq.

[See also "Buxton"; and "Dayton."]

ONE POWER.

"Union Falls," on Saco river, twelve miles, following the course of the river, and eight miles by the most direct road, above Saco falls, in Saco. A good stone dam here was built by the Saco Water-Power Company in 1856, with fifteen feet fall in low water. In addition to this, below the dam the river falls five feet in a distance of about forty rods, making the whole fall about twenty feet. There is a good bridge 200 feet below the dam. This power is entirely unoccupied, with the exception of a small grist mill and shingle mill.

On the west or Dayton side of the river, the out-cropping rocks are granite of good quality; on the east or Buxton side, the rocks are abundant but not suitable for building purposes. Granite ledges in convenient localities for use, abound within a mile or two of the falls.

On the west side there is below the dam an interval of sixty acres, convenient for building mills; the back lands are high, of granite soil, and are productive. On the east side the soil is more clayey, but not less productive than that on the west. Abundance of good clay for bricks in the immediate vicinity of the falls.

The land in the vicinity is to a great extent under cultivation, though there is an abundance of wood and of pine and oak timber. There are also in the neighborhood large peat beds of good quality.

This power is now held by the Biddeford and Saco Water-Power Company.

Buxton and Hollis—York County.

Joint Statement of the Boards of Selectmen, Based upon the Survey of Daniel Dennett, Esq.

[See also "Buxton"; and "Hollis."]

THREE POWERS.

"Salmon Falls," on Saco river. The head of these falls is two miles, by the course of the river, above Union falls. A log dam has been erected here about twenty feet high. From this dam the water dashes through a narrow rock-bound channel for a distance of something above 200 rods to the foot of the falls. The whole fall is sixty-two feet. The east bank is high and precipitous,

except near the dam, where is a favorable mill site which is now partially occupied by saw mills, containing in all four saws, capable of sawing 4,000,000 feet of lumber per annum. On the west side of the river in Hollis, the bank of primitive rock is not so high or precipitous, and has convenient sites for mills and manufactories, now only occupied for a grist mill and one shingle and heading machine. At the foot of the falls, both in Buxton and Hollis, are good sites for mills, and in the immediate vicinity an abundance of good clay for bricks. About two miles west of these falls there is a large supply of granite, easily accessible, suitable for building purposes. Salmon Falls village, situated at the head of these falls, is upon a direct road from Alfred to Portland. The surrounding country furnishes a large supply of agricultural productions. The soil like other localities by the river in these towns, is of various qualities, principally, however, a clay or sand loam, and quite productive. The head of these falls is situated fifteen miles road distance from Portland, and nine miles from Saco and Biddeford. Power is owned by the Biddeford and Saco Water-Power Company.

Second, "Bar Mills Falls," situated at the village of Bar Mills, 420 rods, by the river, above Salmon falls.

The fall here is eighteen feet in a running distance of sixty rods. The banks are low on either side, furnishing excellent sites for the erection of manufactories and mills. There is an old wooden dam at the head of the falls, which allows a great waste of water, while the power now available is only partially used. There are here eleven saws, capable of sawing at least 11,000,000 feet of lumber. In connection with the saw mills, there are several heading machines and machines for manufacturing sugar-box shooks. In addition to the foregoing there are a grist mill and plaster mill. The water-wheels are the spiral vent, excepting four of the old style under-shot wheel.

A county road crosses the river here over a bridge two hundred and fifty feet long, and the Portland & Rochester railroad crosses the river near the falls.

Good granite quarries are open within two miles of these falls, with an abundant supply.

These falls are fifteen miles road distance from Portland, and about ten miles from Saco.

Power is held by various owners.

Third, "Moderation Falls," at West Buxton village, five miles by the course of the river above Bar Mills falls. Fall fourteen feet

in thirty-six rods running distance. At the head is an old log dam, through which at lowest water more than one-half of the water of the river escapes.

The river here has a rock bed, and the banks on either side furnish excellent sites for building mills for a considerable distance below the falls, to which the water might be carried with slight expense and labor, by means of canals, penstocks, or flumes. Within two miles are now two brick-yards, where a large number of bricks of superior quality are annually manufactured. Good granite for building purposes may be obtained on the banks of the river about one mile above. The soil in the immediate vicinity of the falls is a clay loam, while further from the river a sandy loam prevails. The out-cropping rocks on the west or Hollis side of the river are granite; on the east or Buxton side the rocks are chiefly mica schist. No granite except detached rocks or boulders. Wood and timber are abundant for fire and for building purposes.

This power is now partly improved by two woollen manufactories; two double saw mills, containing three single saws and one gang, capable together of sawing annually 11,000,000 feet of lumber. There are besides, four machines for manufacturing sugar-box shooks, two shingle mills, several heading machines, one grist mill and one plaster mill. Water wheels, spiral vent and turbine.

A county road here crosses the river over a good bridge 240 feet in length. The owners of the water-power are chiefly, on the Buxton side, the "Buxton Manufacturing Co." and A. K. P. Lord, Esq., of West Buxton; on the Hollis side of the river the principal owners are Oliver Tracy, Esq., and Mr. John Sawyer, both residing at West Buxton.

The market of this place, as well at the principal market of those doing business at either of the falls in these towns, is Portland, and is reached by way of the Portland & Rochester Railroad.

These falls are situated eighteen miles from Portland, fourteen miles from Saco, and five miles from the nearest station on the Portland & Rochester Railroad.

BUXTON AND HOLLIS—YORK COUNTY; STANDISH—CUMBERLAND COUNTY.

Statement of the Boards of Selectmen, Based for Buxton and Hollis upon the Survey of Daniel Dennett, Esq.

[See also "Buxton"; "Hollis"; and "Standish."]

ONE POWER.

"Bonny Eagle Falls," in Hollis on the west and Standish and

Buxton on the east side, situated at Bonny Eagle village, one and one-fourth miles by the river above "Moderation Falls." Their total height is forty-eight and one-half feet. That descent is attained within a running distance of 160 rods. Twenty-five feet of fall are obtained in fifty rods. The water of the river divides at the head of the falls and runs in two channels to the foot of the falls, forming an island containing about sixty acres. By the main or western channel, the water descends through a narrow passage bounded by rocks, in a succession of falls and rapids, while by the other or eastern channel, the descent, though rapid, is continuous. The banks of the western channel, though not rising to a great height, are precipitous through a part of the distance, though furnishing in some places eligible sites for mills and reservoirs. The bed of the eastern channel or "New River," so called, is of rock, with low banks, sufficiently high however to serve as a protection from freshets. The banks and the lands extending back from them, furnish excellent sites for building mills, and seem to be especially fitted for the easy and cheap construction of aqueducts and reservoirs, particularly upon the island above named.

At the head of the main channel the power is partially improved. On the Standish side there is one double saw mill, containing two single saws, with other machines sufficient to manufacture into headings and sugar-box shooks the boards sawed at the mills. This machinery is capable of manufacturing 2,000,000 of lumber annually. On the Hollis side of the falls are two saw mills, owned by Messrs. Abijah Usher and M. M. Came, with other machinery capable of manufacturing into headings and box shooks 2,000,000 feet of lumber. Standish report says, "Three million feet of lumber manufactured annually; not one-tenth of the power employed." This can hardly mean the power at lowest run. Total range of water from lowest to highest on the dam, six feet.

The out-cropping rocks at the falls and in their neighborhood, are chiefly granite of good quality for building purposes, and easily accessible. The soil in the vicinity is of various qualities and generally of good quality for agricultural purposes. Wood and timber are abundant. There is also good clay for bricks in the vicinity, and a brick-yard now being worked within a half mile of the falls.

Bonny Eagle village, at the head of the falls, is upon the county road which formerly was the great thoroughfare from Dover, N. H., and Alfred, Me., to Augusta and the east. Bonny Eagle is

distant from Portland eighteen miles; from Saco by road sixteen miles; from the nearest station on the P. & R. R. R., six miles.

Byron—Oxford County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

Two only of the above are improved. Three are situated on Swift river, and are owned by M. O. Reed and John Houghton. Upon these privileges are board, clapboard, and shingle saws, carried by centre vent wheels.

Mills operate not more than half of the time, and are quite productive. The river is very rapid, about forty feet wide and two feet deep, with no lakes or ponds connected with it in the vicinity.

Several good mill privileges besides the above, which if properly improved and managed with economy, might yield considerable returns.

Calais—Washington County.

From the Statement of Levi L. Lowell, and William H. Boardman, Esqs.; and of C. F. Todd, Esq., of Milltown.

EIGHT POWERS.

First, on Beaver Lake stream. No specifications. The lake covers about a square mile according to the State map.

Second and Third, on Magurrewock stream, the outlet of the Magurrewock lakes. No details. The lakes cover an aggregate of three or four square miles according to the State map.

Fourth, the "Salt Water Falls," on the St. Croix river just above the bridge; fall ten feet; the power is now used to propel only a grist mill; formerly a saw mill was situated on the dam, but this is discontinued, owing to the rise of tide which suspends operations about half the time.

Fifth, about a half mile above, the "Union Falls"; seldom obliged to stop on account of rise of tide. At this point a dam extends across the river, on which dam are situated improvements as follows:

English side.	*American side.*
Five gangs; five lath machines.	Two gangs; one shingle machine; two lath machines.
Will cut twelve million feet of long lumber and twelve million laths.	Will cut five million long lumber; five million laths; 500,000 shingles.

Sixth, "Salmon Falls," about one mile further up, on which are improvements as follows:

Very fine power unimproved.	A machine shop and grist mill.

Seventh, "Lower Dam at Milltown," one-fourth mile above Salmon falls, with improvements as follows:

Three gangs; two single saws, three lath machines, one sash and blind factory, one shingle machine, a planing machine, one saw factory, two axe factories, two grist mills. Will cut eight million long lumber, two million laths, and manufacture 600 dozen axes.	Two gangs; one single saw. Will cut six million feet lumber and six million laths.

Eighth, "Upper Dam at Milltown," forty rods above Lower dam, with improvements as follows:

Six gangs; six lath machines. Will cut fifteen million long lumber and fifteen million laths.	Three gangs, three single saws, three lath machines, two shingle machines, one planing factory, one grist mill. Will cut nine million long lumber, nine million laths, 1,500,000 shingles.

Aggregate annual production, about one hundred millions of lumber sawed, and 70,000 bushels of grain ground. The power is ample to double or treble the amount. Not more than half of the power is improved, if so much. Value of annual products about $2,000,000. The saw mills operate from April 1st to October 1st, they however do partial work for a larger proportion of the year. The grist mills operate all the year. Various forms of wheels used, centre vent reputed the best. Machinery in general excellent. The power is owned chiefly by manufacturers of lumber resident in the vicinity.

The great lakes at the source of the river on both its branches can be flowed to almost any extent, securing an indefinite increase of power. Artificial reservoirs also are peculiarly feasible, there being a large amount of low land upon the river susceptible of ready conversion into storage basins at moderate expense. The delivery of water can be made practically constant.

Freshets can be controlled readily, the low banks further up the stream overflowing after a certain rise is attained, and relieving the pressure. No logs have ever been lost on the St. Croix. The extreme total range from lowest to highest water is about nine feet.

Underlying and surrounding rock, granite and slate, adapted to building uses. The lay of the land upon the privileges is most excellent for the accommodations of mills and workshops, the natural surface being about on a level with the highest run of water in freshets. Probably five-sixths of the basin of the stream is forest-covered, much of it being timber land.

Inadequately as the power has been improved it has been sufficient to draw about it and settle a population of 20,000 souls within a radius of five miles.

Being situated at the head of tide upon navigable waters, markets are at all points accessible by sea where lumber is wanted; in particular the ports of the United States, the West Indies and Europe. Records from 1831 to 1867 in possession of L. L. Lowell, Esq., show that the river closes with ice on the average, the 25th of December and opens the 20th of March.

Cambridge—Somerset County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

First, at the village, on Ferguson stream; stream rises in large bogs; head and fall thirteen feet; saw mill and flour mill, with four runs of stones; former operates about half of the time, the latter all the year.

Other small powers not occupied.

Camden—Knox County.

Digested from the Statement of T. R. Simonton, Esq., and from a Plan of the Water Power, both based upon a Survey by Nathaniel Crooker, Esq., said Survey being undertaken for the purposes of this Report.

TWENTY-ONE POWERS.

The most important and valuable water-powers of Camden are those on the Megunticook stream, which flows from Canaan or Megunticook pond into Penobscot bay. The length of the stream, following its course, is about three miles and a half; but the distance on a straight line from the pond to tide waters at Camden

harbor is about two and one-half miles. By means of the dams at the source of the stream a full and abundant supply of water is reserved for the dry months of summer.

The number of falls available for manufacturing purposes on the stream is fourteen, and the amount of head of all the falls is about 150 feet.

First. Three rods from tide waters at Camden village is located the large anchor factory owned and operated by H. E. & W. G. Alden. This privilege has nine feet head at high tide and fifteen feet at low tide. There are two buildings used for manufacturing purposes, one 50 by 90 feet and the other 35 by 60 feet. The wheel used is the Reynolds Turbine. Three thousand pounds of anchors per day, or 350 tons per year, can be made by the machinery now used. This factory was started by the present proprietors in 1866.

Second. Six rods from tide waters is the grist mill owned and carried on by Messrs. Carleton, Norwood & Co., and Samuel G. Adams. This privilege has twelve feet head or fifty horse power. The amount of grain ground per year averages about 20,000 bushels. The mill is a building of two stories, 32 by 70 feet.

Third. Forty-one rods from tide waters is the cracker bakery owned by Horatio Alden, and operated by Enoch C. Moody. This privilege has four feet head, and the kneading, rolling and cutting of crackers and hard bread to the value of $12,000 is generally done per year. The building used is of two stories, and is 50 by 60 feet. The surplus water is conducted by a flume to the carriage factory of William J. Farrar, and there used in driving machinery for sawing and turning materials employed in repairing and manufacturing carriages.

Fourth. Fifty-nine rods from tide waters are marble works owned by G. W. Richards, leased and carried on by Samuel Bryant of Rockland. This privilege has four feet head. Nearly all the gravestones sold in Belfast, Camden and Rockland are polished at this establishment. A rubbing and a polishing machine is driven by this power. Shafting is connecting with an adjoining building, where the manufacture of Collins' glass cylinder pumps is carried on.

Fifth. Sixty-six rods from tide waters is the large factory for manufacture of felting used in the manufacture of paper, carried on by Johnson, Fuller & Co., being the only establishment of the kind in the United States. The factory building has two stories and two

basements, is 40 by 100 feet, and was built by Horatio Alden in 1864. The building was leased by Johnson, Fuller & Co. in 1865. The number of operatives employed is thirty-five, and the amount of sales $60,000. This privilege has a head of thirteen feet or fifty-five horse power, and drives two sets of machinery with 800 spindles. Reynolds' Turbine wheel is used. The surplus water of this privilege is conducted by a canal to the tannery some forty rods below, owned and carried on by Thorndike & Scott. This water power has eight feet head, and is used for grinding bark, pumping, rolling and milling. There are three buildings; a tannery 40 by 105 feet, a currier shop 60 by 24 feet, and a dry house 25 by 25 feet. The number of tan vats is thirty-four, twenty-eight of which are under cover. The annual value of leather manufactured is $25,000. This is one of the old establishments of Camden, having been started in 1813 by Moses Parker.

Sixth. Eighty-six rods from tide waters is the oakum factory owned and carried on by C. G. Alden & Co. This privilege has eight feet head or thirty-four horse power. They use the Reynolds' Turbine wheel. There are two factory buildings, one 30 by 50 feet and the other 30 by 70 feet, each having one story and a basement. The amount of sales of oakum manufactured at this establishment is $25,000 per year. A carding machine is also driven by the same power.

Seventh. Ninety-eight rods from tide waters are located the block factory, machine shop, blacksmith shop and brass and iron foundery owned and carried on by D. Knowlton & Co. This privilege has twelve feet head, and an available power in time of drouth of fifty horse power. One Reynolds' Turbine wheel drives the machinery for all these branches of business. The machine shop is a building 40 by 80 feet, the block factory 40 by 60, the blacksmith shop 40 by 60, the brass and iron foundary building 40 by 60, the store building 30 by 40. There are other out buildings and an office. The articles manufactured by this firm consist of ships' iron pumps, capstans, steering wheels with iron rims and locust spokes, force pumps, windlass purchases, geored and gipsy winches, composition work, iron spikes, galvanized spikes, vessels' blocks. Reynolds' Turbine water wheels with gearing, shaftings, iron pullies, &c. One of these power capstans, the vessel pumps and a windlass purchase were invented by David Knowlton, one of the firm. Amount of sales, $75,000 to $100,000 per year. Number of operatives, thirty-five to forty-five.

Eighth. Two hundred and thirty-nine rods from tide waters are the Hemingway falls, so called, having a head of about ten feet. This power has never been used, but is available for manufacturing purposes.

Ninth. Three hundred and forty rods from tide waters is the plug and wedge factory owned and carried on by A. B. & H. A. Gould. This privilege has a head of thirteen feet. There are two buildings, one 25 by 30 feet and the other 31 by 50. Amount of sales, $5,000 per year.

Tenth and Eleventh. At the distance of 412 and 432 rods from tide waters, are the two privileges occupied by D. H. Bisbee & Co., in carrying on the manufacture of powder. There are two dams and the whole fall of water has a head of twenty feet, at the lower dam a head of eight, and at the upper dam a head of twelve feet. The number of buildings used for the different branches of the manufacture of powder is eleven. The buildings are of one story and vary in size from 28 by 38 to 12 by 12. The quantity of powder manufactured yearly is 8,000 kegs, requiring in its composition 150,000 pounds of saltpetre, 50,000 pounds of brimstone, and 80 cords of alder wood. The value of powder manufactured at these mills per year is $30,000 to $40,000.

Twelfth. Five hundred and forty-four rods from tide waters are the falls on the Conant farm, having a head of ten feet. These falls are unoccupied.

Thirteenth. There are also falls with eleven feet head, 797 rods from tide waters, also unoccupied.

Fourteenth and Fifteenth. At the source of the stream, 1,107 rods from tide waters, are the mills known as the "Molineaux Mills." There are two privileges as now occupied, one used for a grist mill and one for a saw mill. These falls have a head of twelve feet. Should a dam be built, say twelve rods below these privileges, and they united, a head of water could be obtained of twenty feet or eighty-five horse-power. This privilege would be an excellent one for a paper factory, the water being pure and well adapted for the manufacture of a superior quality of paper. A number of enterprising gentlemen have been talking of building such a factory for a year or two past.

In addition to the water powers on the Megunticook stream already named, there are others of minor importance in different parts of the town, which have been or are now occupied for various branches of manufacture.

Sixteenth. On Spring Brook stream, some two and one half miles from Camden village on the road to Belfast, are falls with a head of fifty feet, available during a part of the year. There used to be a stave and shingle mill on this privilege, owned and operated by Augustus Thomas. It is now unoccupied.

Seventeenth. On the brook running from Harrington's meadow into Canaan pond is a water-power with a head of 16 feet, which drives the machinery of a stave and shingle mill during the fall and spring months. It is occupied at the present time by Isaac B. Melvin and Joel Hodgman.

Eighteenth. On Goose River stream, which runs from Hosmer's pond to Rockport village, there are falls of considerable importance with water-power available during a large part of the year. There used to be on this stream one grist mill, one saw mill and two stave and shingle mills. There is now in operation on the stream but one stave and shingle mill.

On the Oyster River stream, which has its source in Oyster River pond and empties into a larger stream by the name of Oyster river, are several water-powers available in wet seasons during all the year, and in dry seasons during the largest part of the year.

Nineteenth. At its source near Oyster River pond, is a water-power with nine feet head, used eight or nine months of the year in driving the machinery of a stave and shingle mill, owned by E. G. S. Ingraham.

Twentieth. A little over a mile below is a water power with twenty feet head, available during most of the year, some years all the year. Ambrose Sampson owns and operates at this place a stave, shingle and grist mill, with two runs of burr stones. Three-fourths of a mile from the last named mills are the saw mill and grist mill owned by the estate of Randall Tolman. During the greater part of the year there is a head of water of ten feet.

Twenty-First. There used to be at Rockville village a tannery, a stave and shingle mill, and a sash and blind factory, but they are not in operation at the present time.

The scenery of Camden is to a remarkable degree varied and beautiful, combining the charms of inland, ocean and mountain prospect. There are extensive beds of limestone in the town, and large quantities are quarried at various points. There are nine ponds in Camden, with an area of 1,335 acres. The names and acres are thus given on Osborn's Map of Camden: Canaan pond, 500 acres (1,000 acres of same pond in Lincolnville); Chickawakie pond, 210 acres;

Grassy pond, 200 acres; Oyster River pond, 150 acres; Lilly pond, 65 acres; Hosmer's pond, 65 acres; Tolman's pond, 65 acres; Mace's pond, 60 acres; Rocky pond, 20 acres. From the Chickawakie pond, Rockland city is supplied with an excellent quality of pure water, and from the Lilly pond large quantities of ice are cut in the winter and shipped to southern markets.

The population of Camden by the census of 1850, was 4,005; by that of 1860, 4,588. Its valuation in 1860 was $1,062,228. It is considered a moderate estimate that the next census will give a population of 5,500, and an increase of valuation of from 50 to 75 per cent. There are two good harbors, one at Camden and the other at Rockport. These harbors are clear of ice except during a few of the coldest days of winter. The most important branches of business are manufactures, lime burning, ice cutting, ship building, and fishing business.

Camden has devised liberal things for those willing to assist in developing her manufacturing resources, by exempting from taxation the property invested for a period of five or ten years.

Canaan—Somerset County.

Digested from Selectmen's Statement.

SIX POWERS.

First, "Barnes' Mill," on the outlet stream of Morrill pond. Said pond has high banks and can be easily converted into a reservoir with ten feet head; it is 1½ by ¾ miles in extent. A dam, small saw mill, with fourteen feet head, are the only improvements.

Second, in Canaan village, on Sebattas stream, the outlet of Sibley's pond. The pond is one by two miles in extent, receives contributions from Morrill pond, also from Black stream and Bog stream. Its banks are low at the outlet of Bog stream, and it is accordingly not susceptible of conversion into a good and cheap reservoir. Head of water at the privilege seven feet, shingle mill and planing mill; operate about three-fourths of the year.

Third, in Canaan village, on the Sebattas stream, eighteen feet head, grist mill, carding, bark and fulling mills; operate the year round.

Fourth, in Canaan village, on the same stream, head eight feet; saw mill and shingle mill which operate nearly all the year round.

Fifth and Sixth, "Moore's Mills," one mile below Canaan village; the upper, a head of six feet; a saw mill which operates about six months of the year. Lower dam ten feet head; saw mill, shingle mill, grist mill; operate nearly all the year.

The power on Sebattas stream is only part improved. It is capable of furnishing one hundred horse-powers the year round. As above remarked an excellent reservoir can be made of Morrill pond; Black stream and Bog stream are both very constant in their flow. The dams can all be raised several feet so as to furnish more head.

Other dams, also, at other points might be built so as to afford safe and valuable power. Wheels used, Tuttle's centre vent with patent regulator. The soil of the town is very productive as appears by census statistics.

Canton—Oxford County.

[See Appendix.]

Cape Elizabeth—Cumberland County.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Clark's Mills," on Long creek. Fall eighteen feet in one-half mile, operates ten months, breast wheel eighteen feet in diameter.

Second, on Mill creek, a tide power. Stone dam; grist mill, one run of burr stone, and one of granite, nine foot tub wheel. Tide rises and falls from five to eight feet; mill operates from ten to twelve hours a day, and can grind one hundred and fifty bushels in the time.

Third, a tide power at Spurwink. Unimproved.

Fourth, a tide power of large capacity can be secured by a dam at the north of the estuary into which Long creek empties.

Two artificial reservoirs of large capacity can be constructed in connection with the powers.

Market, Portland, close at hand.

Carmel—Penobscot County.

Digested from Selectmen's Returns.

SEVENTEEN POWERS.

These are located as follows: Upon the Ruggles stream, three; Kingsley do., four; Sowadabscook do., four; Harvey do., four; Kenduskeag do., two.

There are no falls of any note; the power is produced chiefly by dams; is judged sufficient to cut yearly 5,000,000 feet of boards and 4,000,000 shingles. It is not all improved; in part as follows:

Ten board mills, eight shingle mills, one lemon-box mill, one cloth-dressing and carding mill, and a grist mill. The mills do not work all the year; about one-half work six months, and the other half one-third of the year.

The Sowadabscook stream is connected with a pond about two miles long and one mile wide. The Kenduskeag stream is connected with a pond somewhat smaller. The capacity of the ponds could be very much increased at small expense by the erection of dams. Freshets moderately heavy. Total range from low to high water, five to ten feet. In ordinary seasons there is sufficient in the Sowadabscook throughout the year to operate nearly all the mills upon it.

"The effect of the improvement of the power upon the wealth and population of this place has not been favorable. There are several reasons for this. The two principal ones are, that the lumber was manufactured and marketed when it was low, consequently the surplus was small after paying expenses; and a large amount of lands were owned by non-residents, who stripped them of the lumber without leaving an equivalent. Notwithstanding the most valuable portion of the lumber is gone, still three-fourths of the town are covered with forests."

The value of the aggregate yearly products is $25,000. Market, Bangor.

Carroll—Penobscot County.

[See Appendix.]

Carthage—Franklin County.

Digested from Selectmen's Returns.

TEN TO TWENTY POWERS.

The whole volume of Webb's river can be used from ten to twenty times. The river is a constant succession of rips for several miles. The amount of power is indicated by the fact that there are upon *one* of the dams a saw mill, grist mill with two runs of stones, two shingle mills, and other machinery; and that there is abundant water for them all, when any sort of precautions are taken to use it economically. There are a saw mill, shingle mill, lath mill, and threshing machine on another dam. There were formerly mills upon a third dam, now burned down.

Wheels, old flutter wheel and centre vent.

Webb's pond, the source of the stream, is seven miles long and from one to nearly three miles wide. The channel of the outlet can be lowered six feet, and the surface of the pond raised three feet, this securing nine feet head over the whole surface. The land at the foot of the pond where the dam should be built is hard and rocky, and would give firm foundations for dam and mills.*

The stream is peculiarly steady and free from freshets. The pond is fed by seven different streams and many small brooks, and thus drains a large tract of country.

Granite abundant, also clay for bricks, and vast quantities of excellent limestone. Sites for mills excellent, the land mainly level.

Three-fourths of the basin covered with woods.

Market, Portland, chiefly over Androscoggin railroad, from North Jay depot, ten miles distant from water-power.

Several other small powers in town, adapted to light manufacturing; not improved.

Casco—Cumberland County.

[See Appendix.]

Casco and Naples—Cumberland County.

Statement of Washington Bray, Esq., of Naples.

[See also "Casco"; and "Naples."]

TWO POWERS.

Both situated on Crooked river below Edes' falls. Each has a fall of about eight feet.

The volume of the river at mean run is about 1,593 inches under a head of 9.5 feet, giving on an eight-foot fall about 100 horse-powers. River very constant, fed by ponds.

Castine—Hancock County.

Selectmen's Statement.

ONE POWER.

A tide-power; a grist mill and shingle mill upon it in working order. Work all the year. Machinery of the best construction for a tide mill. No specifications. Height of tide at this point about twelve feet.

Centerville—Washington County.

Digested from Selectmen's Returns.

TWO POWERS.

First, on west branch of Chandler's river; fall eight feet; for-

* Quoted from the returns of Weld.

merly a saw mill; can operate but half of the year. No lakes and ponds.

Second, the "Great Falls," on Machias river; fall twenty-five feet in twenty rods; situated five miles above Whitneyville, which is connected by railroad with Machiasport. Land about the falls level and dry. Proprietors, S. W. Pope & Co. of Machias. This is a most valuable power. The country above is unbroken wilderness.

Charlotte—Washington County.

Digested from Selectmen's Returns.

[See also "Charlotte and No. 14."]

SIX POWERS.

First, "McGlaughlin's Mills," on Damon mill brook; fall about ten feet; shingle mill, operates four or five months.

Second, "Granger's Mills," on Moosehorn stream, twelve feet fall; shingle mill, clapboard mill, operates five or six months.

Third, Fourth, Fifth and Sixth, on Fisher's mill brook. One improved in an up-and-down saw and shingle machine. Fall upon this privilege about thirteen feet, upon the others about ten feet. Will operate five to six months. A fifteen-foot back shot wheel.

No ponds. Fisher's brook could have artificial reservoirs enough to run the powers all the year, but not without flowing a valuable meadow. This stream is variable. The Moosehorn rises in low land and is constant. One-third of the basin covered with woods.

Market, Pembroke and Calais, by road.

Charlotte and Township No. 14—Washington County.

Statement of T. W. Allan, Esq., of Dennysville.

First, on Dennys river a stretch of rips and ponds two miles and a half long, called "Gardner Rips," and the upper part, "Gilman Rips," which with a part of "Bright's Island Rips," between Dennysville and Township No. 14, have an estimated fall of thirty feet. This does not include the dam at the head of Gilman rips the height of which is eight feet. Owned by Kilby & Allan in the lower part, by the Lincolns in the upper.

Charleston—Penobscot County.

[See Appendix.]

CHELSEA—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

NINE POWERS.

The principal water-power in Chelsea is located upon the outlet of Worromontogus great pond in Augusta.

First, about ten rods below the south line of Augusta, a dam seven feet high, and five rods long, which flows eight or nine square miles, with banks which admit of raising the dam to any desired height. The above dam is for a reservoir.

Second, about twenty rods below said dam, are a dam and falls fifteen feet high, with saw and shingle mills, owned by W. Lewis of Pittston, which cut all the available lumber, although the dams are old and leaky, and the wheels are the old-fashioned ladle pattern.

Third, about one-half mile below said mills, is a good stone dam twelve feet high, with shingle and grist mill nearly new, which does a good business all the year.

Fourth, about one-half mile below, was formerly a saw mill known as the Dummer mill, which was destroyed by fire many years ago. Fall from the third mill to Dummer privilege, about eighteen feet. Unoccupied.

At this point is received an additional stream called "Chase Meadow Brook," which takes its rise from "Greely Pond" in Augusta.

Fifth, three-fourths of a mile below the Dummer privilege is a fall fourteen feet, has been occupied by two sets of saw mills, first, known as "Jones," the last as "Dorr's" Mills.

Sixth, eighty rods below the last named, is a fall of sixteen feet, known as "Searle's Mills." Thomas Searle and others built a saw and shingle mill in 1833 in the then wilderness, which did a good business the greater part of the time for thirty years. In 1863 the mills and centre dam having become rotten, and lumber scarce, the mills were taken down, since which time the privilege has been unoccupied. This privilege flows about five acres. It has a ledge foundation, which runs far into the banks, for dam and mills. The stone wings of the dam are now standing. Here an additional stream comes in, known as "Long Meadow Brook," with large space for flowage.

Seventh, about one mile below the last named privilege, is a fall of about fifteen feet, upon which there was once a saw mill, known

as "Jewett's Mill;" this was burned many years ago, and the privilege has not been occupied since.

The total fall of the "Togus" stream in Chelsea is about ninety-eight feet attained in the distance of three miles. There have been no freshets to cause damage to dams for the last thirty-five years.

Granite boulders and ledge suitable for walls and underpinnings for buildings. The surface around the falls is generally very convenient for the location of mills, and other necessary buildings, with good roads passing Searle's, Dorr's, Baker's and Lewis' falls.

"The improvement of the power has benefited us, first, by converting lumber, which in its natural state was and is worth nothing, into merchantable material; and secondly, by inducing settlers to secure and clear the lands, and convert them into fruitful fields, two-thirds at least being well adapted to farming purposes, especially for grass, grain, and potatoes."

Market, Pittston, Gardiner, Hallowell, and Augusta, which are from one-half to seven miles distant.

About one-half the town is a clay loam, from four to twenty inches deep, with hard clay pan, which retains the water and dressing near the surface and makes it very productive, especially for hay, grain and potatoes. Clay and sand are quite abundant near the river, with good privileges for making brick, and a large amount are manufactured annually. The volume of the stream cannot now be accurately ascertained, but if the dams were tight, and mills constructed with modern improvements, the power would be sufficient to carry a large amount of machinery.

Eighth, on a small stream in the east part of the town, known as Gardiner Meadow brook; formerly a saw mill, which did business about two months in the spring for many years. Unimproved for the last twelve years.

Ninth, on a small stream, with fall thirty feet high, on the bank of the Kennebec river. An overshot saw and shingle mill did business for a few years. Privilege is now unimproved.

Cherryfield—Washington County.

Digested from Selectmen's Returns.

SIX POWERS.

The above taken together constitutes the "Cherryfield Falls," on the Narraguagus river.

First, at the head of tide, in the village, a privilege of six feet fall, owned by A. Campbell & Co., who contemplate building a

dam. An excellent power for machine shops, etc., for village use. Excellent sites for building on the east bank.

Second, the "Lower Dam," so called. Nine feet head, eighty rods horizontal run. Occupied, east side, grist mill, planing mill, sash, door and blind factory, a machine shop and foundery. West side, gang, edge and lath mill. Gang cuts on the average 25,000 lumber per day, lath mill about 25,000 per day. Owned, east side, by A. Campbell & Co.; west side, one-half by the same, one-quarter by J. O. Nichols & Son, and one-quarter by S. Campbell, agent.

Third, "New York Dam," so called, at the upper bridge; eleven feet head; horizontal run sixty rods to the next dam above. Owned by John W. Coffin & Co. Occupied, east side, gang and single saw, edge and lath mill; west side, grist mill. [Saw mill and lath mill on west side burned last winter.] A very fine power.

Fourth, "Wakefield Dam," head seven feet, horizontal flow fifty rods to the dam above. Occupied by two shingle mills, two machines each, with cut-off saws, etc. Owned, east side, by T. P. Willey; west side, by Lewis & Godfrey.

Fifth, "Hall Dam," ten to eleven feet head, ninety rods horizontal flow to dam above. Occupied, west side, gang, single saw, edge and lath mill; east side, shingle mill with two machines and cut-off saw, carding mill.

Sixth, "Stillwater Dam," nine feet head, horizontal flow three miles. The east and west branches of the Narragaugus river form junction half a mile above this power. The land in the vicinity being low and flat, has been flowed by the dam, forming a very large reservoir. All the mills upon this power were burned in July, 1866. The dam has since been thoroughly repaired, and a gang and single saw, edge and lath mill, erected on the west bank. These mills are very superior and of large capacity. The gang has cut in twelve hours 52,000 of two-inch plank, would average 30,000 daily. The reservoir formed by this dam is so large as to sustain the stream, and by consequence all powers upon it, in the severest drouths, the accumulations of the night meeting the drain of the day.

The mills work all the year save the winter and early spring, at which time the ponds freeze so that the logs cannot be floated to the slip. Very extraordinary summer drouths sometimes suspend the mills for a short time. The power of the river is capable of

great increase by the improvement of the lakes connected with it for reservoir purposes. An extensive heath in Beddington could at little expense be converted into an immense reservoir.

Freshets, less severe than formerly, since the lakes were dammed. Range from lowest to highest water about six feet.

Special pains have been taken to construct the best mills and secure the best machinery. The centre vent wheels are much preferred.

Production. Each dam occupied by a gang and single and lath mill is capable of sawing five millions of long lumber and five millions of laths each season. For the last three years the annual product in long lumber has been worth at the wharf here $400,000; shingles, $30,000; total, $430,000. When our power shall come to be improved for regular manufacturing purposes to the extent of its capacity, we have the assurance of great increase in wealth and population. "We purpose to grow by the use of this power and become a big people."

The lumber is marketed in New York and Boston mainly, though pine boards are shipped of late directly to the West Indies.

Accessibility. Vessels approach within five and a half miles of the falls, at Millbridge, to which point lumber is floated in scows and rafts. The river is open to navigation eight and a half months of the year.

Chester—Penobscot County.

[See Appendix.]

Chester and Winn—Penobscot County.

Digested from the Returns of Winn.

[See also "Chester"; and "Winn."]

ONE POWER.

"Island Rapids," on the Penobscot river; fall fifteen feet in one hundred rods. Power, that furnished by the whole volume of the Penobscot, some thousands of horse-powers.

Entirely unimproved.

Chesterville—Franklin County.

Digested from Selectmen's Returns.

[See also "Chesterville and Farmington."]

THREE POWERS.

First, at North Chesterville, on Wilson's stream. Height of fall twelve feet in thirty rods. Power improved only in part; a grist

mill and carding mill. Water sufficient for all the machinery six months, and for the grist mill with two runs of stones the whole year. Centre vent wheel. Power on the Chesterville side owned by Davis & Keith. Four ponds connected with the stream, averaging nearly one mile each in diameter. Small artificial reservoirs can be readily constructed. High banks, level back from the stream.

Second, at Chesterville Center, on Little Norridgewock stream. Twelve feet fall; saw mill, salt-box factory; one flutter wheel, three Tuttle wheels, two Blake wheels.

Third, below the Second, at Chesterville Center; fall eight feet; one Tuttle wheel, one improved wheel, one centre vent. The power on the two falls has never been estimated; judged equal to 100 horse-powers. The mills run nine months out of the year. Four ponds, averaging one mile long by one-half mile wide. Artificial reservoirs of large capacity can be constructed. Ponds, also, can be improved for reservoirs by dams. Perfectly safe in freshets. Range of water on the upper dam, six feet; on the lower, three feet.

Fourth, fall thirty-five feet; saw mill, grist mill, turning lathe, etc. Large reservoirs could be constructed. Power is not all used.

The lay of the land about all the before-mentioned powers is excellent for the location of mills, etc. Granite of suitable quality for building is found in the close vicinity of each. Proprietors would aid in surveys for the development of this property. "Millions of pine lumber still remaining in the town. Excellent grazing town."

Chesterville and Farmington—Franklin County.

Digested from the Statement of the Boards of Selectmen.

[See also "Chesterville"; and "Farmington."]

ONE POWER.

"Farmington Falls," on the Sandy river; total head and fall sixteen feet. No estimate of the power by measurement has been made. Power not now and at no former time half put to use, except perhaps in seasons of extreme drouth.

The outlet stream of two large large ponds situated in Wilton, joins the river above the dam; each pond contains about 300 acres.

On the Farmington side of the river, "Davis' Saw Mill"; formerly a grist mill, which was burned three or four years ago. The

mills being situated upon a canal may be regarded as safe from freshets.

On the Chesterville side there are two saw mills, a spool factory, a factory for the manufacture of drums and horse-rakes.

China—Kennebec County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

These are nearly all upon the west branch of the Sheepscot river, once occupied by grist and saw mills. None can operate all the year. Very large ponds in town, which serve as reservoirs to powers in adjacent towns.

"The water-powers are of local value and use, but not such as would influence capitalists to invest upon them with a view to permanent profitable business."

Clifton—Penobscot County.

[See Appendix.]

Clinton—Kennebec County.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Hunter's Mills," in the southeast part of the town on the Sebasticook river. Height of dam seven feet; can be raised several feet more by paying small damages. Double saw mill, and mill with circular saw for long boards, two shingle mills, one grist mill with three runs of stones, a factory of sash, doors and blinds, a carding and cloth-dressing mill, and a brush-block manufactory. About 3,800 inches of water are used. With a good dam there would be plenty of water for all the mills the year round. The river above is fed by large ponds, as Twelve-Mile pond, Newport pond, and others. In great freshets the water rises only about three and a half feet in the mill-pond. The underlying rock is slate; the dam and mills both rest upon solid ledge. Granite boulders that may be split for building purposes abundant within a half mile or mile. The land bordering the stream is but a few feet above the level of the water in time of freshet, is level and very convenient for building. Wheels employed, the Kendall, Stearns, and Tuttle; Kendall preferred for this place.

Second, on the Black stream in the northeast part of the town;

a grist mill and saw mill. Saw mill operates only about half of the year. Dam ten feet high.

Third, on the Twelve-Mile stream; stone dam, about ten feet high; slate-ledge foundation; water about four months of the year.

The improvement of its power has had a most beneficial effect upon the wealth and population of the town, and in conjunction with the railroad has built up quite a village, with two churches, a school-house for two schools, that will accommodate two hundred scholars, nine stores, etc.

Market, Portland, by Maine Central railroad; depot one-half mile from the principal mills.

Clinton Gore Plantation—Kennebec County.

Digested from Assessors' Returns.

[See also "Burnham and Clinton Gore."]

ONE POWER.

On the Powers brook, ten rods from the railroad, and half mile from Burnham depot. A shingle mill upon it, runs four months out of the twelve; cuts 500,000 shingles.

Columbia—Washington County.

Digested from Selectmen's Statement.

TWO POWERS.

First, "Saco Falls," on Pleasant river. Height fifty feet in two hundred yards. Power not all improved. A dam; shingle, lath, saw, and grist mills upon it. Mills can work all the year, but do not; or rather the grist mills operate all the year, the saw mills but part.

Second power, "Little-River falls" on Little river. Height, presumed from the statement given to be the same as of the above Saco falls.

Land about the falls well adapted to improvement. Streams connected with lakes; one, three miles long and one mile wide.

Market, Boston and New York, by coasters.

Columbia Falls—Washington County.

Digested from Selectmen's Returns.

FIVE POWERS.

First and Second, "Columbia Falls," at Columbia village on Pleasant river, at the head of tide, which here rises and falls from

twelve to fifteen feet. Total descent about sixteen feet in three hundred yards, divided into two pitches. On the upper pitch there are a gang and single saw and lath machine, cutting about three and a half millions of long lumber and about five million laths. Owned by George Harris & Co. On the lower pitch are a single saw mill, lath mill, grist mill, carding mill and fulling mill. The power here is equal to the first. Owned by Samuel Bucknam and others. The grist mill operates all the year, the saw mills are idle in winter, and usually for a short time in the lowest stage of water in summer are shut down, there not being water sufficient for a full business.

Third, two and a half miles up the river is the "Burnt Mill Rips," fall eight feet in a hundred and fifty yards. The power is equal to either of the above. No improvement.

Volume of water.—Pleasant river is bridged between the pitches at the village, the abutments being about forty-five feet apart. At the lowest water the stream pours through this space eight inches deep and six miles an hour. At highest water the space is filled about ten feet deep. The rise of the river is slight, owing to the large extent of heath and low interval bordering the stream, which overflows at flood tide and holds back the water. The land adjacent to the stream and its bordering interval is to a considerable extent sandy; plain somewhat elevated, at the base of which are countless never-failing springs of water, which contribute to sustain the river.

Fourth and Fifth, on Lower Little river, a tributary to the Pleasant, about two miles above the village. Lower fall about ten feet in forty feet, the upper a gradual descent but an excellent power. No improvement upon either of the powers.

There are also other small powers on Peckey branch, a tributary of Chandler's river.

At the head of Pleasant river is a lake 3 by 1·5 miles; several small ponds also contribute to it. There is a dam at the outlet of the lake. Capacity of the lake could not be increased; but very large artificial reservoirs can be had at small cost. Rock about the falls "shelly" and not suitable for building. Land lies well for the erection of mills and shops.

Value of annual products about $80,000. The improvement of the power has increased the population somewhat, and has added considerably to the wealth of the town.

Market, all points by water. The village powers are at the head of sloop navigation; vessels of 150 tons load at wharves.

CONCORD—SOMERSET COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, on Chase's stream, an excellent power; saw mill, shingle mill, lath and clapboard machine; it will run all the saws five months in the year, and either one alone all the rest of the time; five feet fall; poor machinery; the power used would do much more with good equipment.

Second, saw mill, grist mill; machinery poor. Twenty feet fall and water enough to run all the year. Four mills could be built on the stream. Two-thirds of the land covered with timber; hilly with plenty of rocks for building dams and buildings. Lumber manufactured yearly, 200,000 feet, which might be increased to five times the amount. Twenty miles from railroad. "When the Somerset railroad is built we shall be five miles from its terminus."

COOPER—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Cooper's Mills," in the west part of the town; a saw mill, which does but little in comparison with what it might; old-fashioned wheel. Streams connected with ponds which might be greatly improved for reservoirs by dams.

Second, on Dead stream, in the east part of the town. No improvement whatever. Streams connected with ponds which might be converted into reservoirs.

Both streams rise and fall quickly, owing to the non-use of the ponds for storage basins. Basin of Cooper stream nearly covered with woods. Capital and enterprise could find good investment on these privileges.

Market, Calais, Machias, etc.

CORINNA—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, Second, Third and Fourth, on the Dexter stream, a branch of the Sebasticook river, and the outlet of Dexter pond.

Fifth and Sixth, on Alder stream, a branch of Dexter stream.

Four of the powers are improved, with mills and dams. The mills on three of the powers work all the year. The machinery is

not of the best construction for economizing power. Stearn's, Valentine's and Tuttle's wheels are used. The streams are both connected with ponds which are susceptible of improvement as reservoirs.

Market, for produce, Newport; for lumber, Bangor.

Corinth—Penobscot County.

Digested from Selectmen's Returns.

FOUR POWERS, OR MORE.

First, on Kenduskeag stream; two saw and shingle mills.

Second, on Kenduskeag stream; a grist mill.

Third, on Crooked brook; saw and shingle mill.

Fourth, on Bear brook; saw and shingle mills.

The saw mills cut about 300,000 each, but might do more. The McGregory mill saws nearly twice that. A new and good grist mill about to go up in place of an old one. The mills operate three-fourths of the year, grist mill all the year. Slate rock, with granite in spots. Little forest.

Market, Bangor, by road.

Cornish—York County.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Allen's Falls" on Great Ossipee river; fall three and one-half feet in twelve rods. River one hundred and fifty-five feet wide, six feet deep; velocity of current, six feet per minute. The privilege is not improved.

Second and Third, "Thompson's Falls," on Little river; first, thirty-three feet descent in three hundred and sixty-one feet run; second, twelve feet perpendicular. Stream eighteen feet wide, one and one-half feet deep; velocity of current sixty feet per minute. The upper not improved. The lower improved in a grist mill.

Fourth, "Brown's Falls," on Brown's brook; eleven feet fall in one hundred and eighteen feet run. Stream eighteen feet wide, one and one-half feet deep; current sixty feet per minute; saw mill and shingle machine.

Powers operate all the year except in severe drouths. Wheels, overshot and breast.

Ossipee river is fed by Ossipee pond, Brown's brook by Long pond. Spruce brook can be turned into Little river, doubling its power. Long pond can be dammed; Ossipee cannot except at

large expense for flowage. Freshets not destructive. Rock, gneiss and mica schist. Land convenient for building. Basin one-fourth wooded.

Improvement of powers here would benefit the town greatly. Income of grist mills about $1,000 per annum; saw mill about $300 per annum.

Market, Portland, thirty miles by road.

Cornville—Somerset County.

Digested from Selectmen's Returns.

FOUR POWERS.

All situated on the east branch of the Wesserunsett river.

First, two miles south of the north town line; saw mill and shingle machine.

Second, two miles below; saw mills and shingle machine.

Third, one mile south of the above; a grist mill.

Fourth, sixty rods below; shingle machine.

There are no considerable falls; a succession of rapids. The mills operate nearly all the year; all can work ten months. The power is only partially improved. The stream is the outlet of Wentworth pond, in Athens, two by three miles in extent. Granite abundant and of good quality. Basin one-fourth covered with woods.

Market, Skowhegan, nine miles from the upper mill by road.

Cranberry Isles—Hancock County.

Digested from Selectmen's Statement.

ONE POWER.

A tide power on Great Cranberry Island, at the mouth of a creek or inlet, where a dam might be built so as to enclose a vast body of water with which to operate at low tide. Not improved.

Crawford—Washington County.

[See Appendix.]

Cumberland—Cumberland County.

Statement of the Selectmen.

THREE POWERS.

We have two up-and-down saws driven by water, will operate part of the year, and one carding machine, but no water power of any consequence.

CUSHING—KNOX COUNTY.

Selectmen's Returns.

ONE POWER.

A stave mill upon it, running about half the year.

CUTLER—WASHINGTON COUNTY.

[See Appendix.]

DAIGLE PLANTATION—AROOSTOOK COUNTY.

[See Appendix.]

DAMARISCOTTA—LINCOLN COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

A tide power; ten feet fall at low tide; not improved. "Does not belong to anybody."

DANFORTH—WASHINGTON COUNTY.

ONE POWER.

"Butterfield Privilege," situated on the Baskahegan stream, some ten miles above its junction with the Mattawamkeag river.

The dam is about seven feet high and may be made two feet higher if needed. On the dam a single saw and a shingle machine. Sufficient power to drive one single saw, a shingle and clapboard machine, four runs of stones for grinding grain, a carding and clothing mill, and probably more. The dam flows a pond some eight miles in length and one-third of a mile in width. The privilege may also have all of Baskahegan lake, containing about eighteen square miles, for a reservoir, by maintaining a dam at the outlet.

The annual production is quite small compared with what it might be if the power were suitably developed. There are good markets for products.

DAYTON—AROOSTOOK COUNTY.

[See Appendix.]

DEBLOIS—WASHINGTON COUNTY.

Digested from Selectmen's Statement.

NUMEROUS POWERS.

First, the "Great Falls," on the Narraguagus river, and on the county road leading to Beddington on the north and Cherryfield on the south, about eleven miles from tide water, and where the village, comprising about one hundred and twenty inhabitants, is located. The falls extend about half a mile, with an aggregate descent, it is estimated, of nearly fifty feet, embracing a succession of mill privileges equal, if not superior, to any to be found at the same distance from navigable waters within the county. They are so situated as to afford superior facilities for erecting factories of almost any description. The banks on either side are high, the channel of the river narrow and its bed ledgy, so that the expense of dams would be comparatively trifling. Within a short distance of said Great falls there are over three thousand acres of forest, one-half of "black growth," pine, spruce, hacmatac and cedar timber; the other half of old-growth hard wood, beech, yellow, white and grey birch, oak, rock and white maple, ash, &c. Vast quantities additional suitable for cord wood, and millions of feet of hard wood large enough for plank stock and ship timber. The timber adjacent is sufficient to run saw mills of various kinds for many years, and to justify the investment of tens of thousands of dollars with a prospect of a generous return.

The soil is excellent, is free from rocks; roads are constructed with the utmost ease; large natural meadows abound; great numbers of cattle, from all the region about are pastured within its limits; muck of the best quality is abundant. "We are anxious to have capitalists come in and improve our water-power, and industrious workingmen to cultivate our excellent soil. The proprietor of these lands, Wm. Freeman, Jr., of Cherryfield, offers the highest inducements as to terms, to farmers, millmen, or manufacturers."

There are other valuable privileges on the Narraguagus river in this town, none of which are employed. Also smaller powers on other streams which might be turned to useful and profitable account. The only improvement on the Great falls is a shingle mill, which operates without the aid of a dam, by the natural force of the current.

Dedham—Hancock County.

Digested from Selectmen's Returns.

FIVE POWERS.

Or rather there are five powers already in use, with several privileges not surveyed or employed, and therefore not reported. These are all situated upon Fitts Pond stream, a tributary of Eastern river.

First and Second, the "Fitts Mills" falls; two dams, each with head and fall of fifteen feet, giving a total fall of thirty feet in less than one-fourth of a mile. Saw, shingle and lath mills.

Third, Fourth and Fifth, "Dedham Tannery"; three dams, twelve, fifteen and twelve feet high, respectively, and total fall of thirty-nine feet in about forty rods horizontal distance. Saw, shingle, lath, stave, and flour mills, and tannery.

The mills operate all the year, and the power can be greatly increased at little expense, the stream being fed by four ponds, one large and three small. The tannery privileges have two additional ponds, and all can be converted into reservoirs of great capacity. Freshets are not serious. The largest pond is on the dividing ridge betwixt the Penobscot and Union basins, and when greatly swollen pours off its surplus into the Union river, the natural and usual outlet being into the Penobscot.

The rocks about the tannery privilege are of a "shelly" character and are not suitable for building; at the Fitts mills, are a coarse granite and are suitable for rough constructions. Lay of the land, suitable for mills, etc.

Proprietors will aid in a survey. Two-thirds of the basin covered with forests. Improvement of the power has more than doubled the valuation of the town.

Market, Bangor, by road.

Deer Isle—Hancock County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

All are tide powers, one upon which a dam is already built, is capable of carrying a large amount of machinery. No works upon any fresh-water stream, except a carding mill, which runs about one-third of the year, owned by the estate of Pearl Spofford, earning $500 per annum. Two tide grist mills. The tide privileges are mainly unemployed. Various ponds of an aggregate surface

of four hundred acres might be turned to account for reservoir purposes. Wheels, two overshot and one spiral.

Denmark—Oxford County.

Digested from the Report of Survey of Cyrus Ingalls and Joseph Bennett, Esqs.; Procured and Endorsed by the Selectmen.

FIFTEEN POWERS, OR MORE.

The most important of these are situated upon Moose Pond branch, the outlet stream of Moose Pond, which covers about 1,700 acres, is about seven miles long and from 40 to 275 rods wide.

First, at the outlet of the pond, at "Denmark Corner," and five miles from Saco river, into which the stream empties, is the "Outlet Dam." Thirteen feet head and fall. A good stone dam seventy feet long extends from the west bank, the remainder of the dam being of wood for log slips and flumes for the use of the mills. Saw mill, a grist mill with several runs of stones, stave mill and shingle machine.

Second, twenty-six rods below, head and fall of nine feet. Good stone dam eighty feet long, and a mill 26 by 56, three stories high, in which there are a saw mill, stave mill, shingle machine, planing machine, and various kinds of splitting saws.

Third, thirty-seven rods below, a new stone dam nearly completed, intended for a starch factory. Head of eight feet.

Fourth, down said stream thirty rods; head and fall of fifteen feet, with a good split stone dam, laid in cement, and about ninety feet in length laid upon solid ledge. Said dam flows an area of about 700 square rods. A stave machine, shingle machine, clapboard machine, planing machine, kit machine, and various kinds of cutting-off and splitting saws. Connected with this establishment is a large cooperage factory for the manufacture of barrels and other kinds of casks.

Fifth, fifty-five rods below, is the head of "Long Falls," so called, where there is a head and fall of ten feet. The falls at this place extend about twenty rods down said stream, making a descent of about eight feet. The bed of the stream on these falls and the shores is a smooth, solid ledge. The high land comes so well up to the stream, at the head of the falls, that a dam seventy-five feet long would reach from bank to bank, and would raise the required head and pond back a large body of water; the land above the head of the falls makes away from said stream, for considerable distance, nearly level with the surface of the stream at high water in the spring.

Sixth, down said stream sixty-six rods, is the "Symonds' Dam Falls," where there is a head and fall of ten feet. The banks are high upon either side, requiring a dam about sixty feet in length, which would flow an area of about 400 square rods.

Seventh, we have now arrived at or near the head of "Little Moose Pond," which is one mile long and varies from 40 to 100 rods wide, containing about 120 acres. At the foot or outlet of this pond is the head of "Webster's Falls." These falls are forty rods long. In 1807 there was a dam built at the foot of this pond, making a head of ten feet, for the purpose of driving logs down the Moose Brook canal into Saco river, (said canal having been chartered and constructed many years ago for this purpose), and which dam, having been built of wood, has nearly rotted and passed away. This is probably the most valuable privilege on the whole stream, so far as the head and fall and amount of water are concerned. There are many small streams emptying into Moose brook, between here and the upper mills. The tract of land upon the west side is variously estimated to be worth from fifty to seventy-five thousand dollars, it being covered with a heavy growth of pine and white oak timber, the best in this county.

Eighth, from "Webster's Falls" to the "Lower Falls" is three miles; at these falls there is a head and fall of fifteen feet. Below these falls for three mills to its mouth the stream is dead and sluggish, varying from five to ten rods wide and from four to ten feet deep, with high banks the most of the way.

Ninth, Tenth, etc., there are several good mill privileges between Webster's falls and the Lower falls.

Moose brook, from the upper mills at the foot of Moose pond, to Saco river, runs parallel with, and distant about two hundred rods from, the county road leading from Denmark corner to Hiram bridge. No estimate of the volume or power of the stream furnished, other than which is involved in the statement of the capacity of the reservoir. A large area of country and several streams are tributary to the pond.

Twelfth, "Holt's Mill Privilege" at West Denmark village, on a pond of six acres which is fed by a pond of 120 acres. Fall twelve feet; abundant water nearly all the year for saw and grist mill.

Thirteenth, at the foot of Granger pond; sixty-four feet fall in 264 rods; a good privilege for light machinery or a grist mill. Pond can be raised six feet by a dam without damage. Good site

for a flour mill, which is greatly needed, as all the wheat now goes out of town several miles to be ground.

Fourteenth, on the outlet of Fish pond, which is twenty-five acres in extent and fed by a pond of eight acres; fall ten feet; a shingle mill.

Fifteenth, on the same stream about a mile below, a dam flowing a large tract of land; twelve feet head and fall may be had. Two ponds empty into the stream a short distance above the dam, making an excellent privilege.

Granite abundant in all the town, some of it excellent. Sufficient clay for bricks in various localities. Inexhaustible peat bogs of the best quality. Soil excellent for fruit and corn. Two-thirds covered with forests, pine, hemlock, spruce, white and red oak, bass, etc. The Portland & Oswego railroad will pass in our close vicinity. Transportation now by Cumberland & Oxford canal and by road. Market, Portland, thirty-five miles distant. Population 1,100 in 1860. Wood, $1.25 to $3.00 per cord. Labor, $1.00 to $2.00 per day, exclusive of board.

"We offer the highest inducements to capitalists; and any parties coming in to improve our water-power will be received with the utmost favor, and will meet the most liberal advances."

Dennysville—Washington County.

From the Returns of Peter E. Vose, Esq.

[See also "Dennysville and Edmunds."]

ONE POWER.

On "Wilson's Stream," on which is a shingle mill recently erected. This stream has no lake, but takes its rise in springs, so that its flow is not constant; a shingle mill might run four to five months in the year. The stream empties into tide waters close by the county road leading to Pembroke, where machinery might be conveniently located, to be propelled by say an overshot wheel of sixteen feet diameter. The tide flows to the mills on Dennys river in this village.

Dennysville and Edmunds—Washington County.

Digested from the Returns and from a Plan of the Water-Power, Furnished by the Selectmen of Dennysville.

FIVE POWERS.

All the above are situated on Dennys river, the outlet of the great Meddybemps lake.

First, "Dennysville falls," at the village of Dennysville, near Cobscook bay. The water is sufficiently deep within half a mile of the mills in the village to float lumber-laden vessels of 125 to 150 tons. On the dam at the village, which has a head of ten feet and a good pond, there are a single saw mill, one gang saw mill, and a lath machine attached to each; also shingle machines for winter sawing, one grist mill, one bone mill, two pail and churn manufactories. These last are carried on by Lincolns & Eastman, while the mills are the property of Edmund, Thomas and Elizabeth Lincoln. There is water sufficient to operate these mills, &c., three-fourths to seven-eighths of the time from the first of April to the first of December, day sawing. They will cut from 2,500,000 to 3,000,000 feet of long lumber per sawing year, and 1,000,000 to 2,000,000 of laths and shingles. The pail factories are capable of turning out 100 doz. pails or 50 doz. churns per week, and the grist mill can grind 150 to 200 bushels corn per day.

Second, one mile above; a total fall of twenty feet in —— rods. Unimproved.

Third, one-half a mile above; a fall of eight feet in———— Unimproved.

Fourth, one mile above; a fall of eight feet. No improvement.

Fifth, about one mile above; ten feet fall. Not improved.

The foregoing powers are owned by the Lincolns aforesaid, as also nearly all the banks of the river on both sides for several miles. Good roads most of the way to two of them. A gang saw mill once started on one of the privileges, which was destroyed by fire. The total fall of the river from the lake to its mouth, about twenty miles, must considerably exceed 150 feet. Several small streams empty into the river in its course, upon some of which logs can be driven.

The volume of water in the river in time of freshets is judged to be from two to three times the ordinary volume. No serious damage has ever been caused by them. The river, with the water held in the lakes by the dams, can be depended on, excepting in an unusually dry time. The lay of the land is such in connection with the powers, that mills and workshops can be conveniently located. More than half of the basin must be covered with forests, though it has been mostly cut over. But timber enough is left, if fires do not destroy it, to supply the mills for many years. The rocks in the vicinity are suitable for building purposes, and the soil is generally a clayey loam. The population of the town does not mate-

rially increase. If our water-power could be brought into use, our population and wealth would rapidly increase.

Dennysville and Township No. 14—Washington County.

Statement of T. W. Allan, Esq., of Dennysville.

THREE POWERS.

First, a half mile from the north line of Edmunds, "Stodder Rips" on Dennys river. Three-fourths of a mile long; total fall judged to be twenty-five feet. Good chance for dam at the head. Owned by T. W. Allan and the Lincolns. No improvements.

Second, three-fourths of a mile above, "Clark's Rips," forty rods long; fall six feet. No improvement. Pond in the river two miles long; a dam would make the pond half a mile wide; green timber land, old growth. Owned by T. W. Allan and the Lincolns.

Third, two and a half miles above Clark's rips, "Bright's Island Rips"; fall estimated ten feet.

Detroit—Somerset County.

Digested from Selectmen's Returns.

ONE POWER.

The "Rips" on the Sebasticook river; height of the fall thirty to forty feet in one-fourth of a mile. Power estimated equal to sawing 8,000,000 or 10,000,000 lumber. Power only partially improved; a tannery, two saw mills and a shingle mill upon it. Mills work or may work all the year. The stream is fed by the Newport pond and the Martin stream from Plymouth. Machinery of ordinary construction. Rocks, granite and limestone, suitable for building. Total products, $100,000 or $150,000 per annum. The improvement of the power has resulted in a large increase of the wealth of the town.

Market, Bangor and Portland, by Maine Central Railroad.

Dexter—Penobscot County.

Digested from the Statement, and from Elaborate Plans of the Water-Power, Furnished by Josiah Crosby, Esq.

TWENTY-EIGHT POWERS.

Sixteen of the above are situated upon the outlet stream of Dexter pond. Height of the falls 142 feet in three-fourths of a mile, or 160·5 feet in two miles. These are classed together as "Dexter Falls."

First, next below the outlet, J. & G. Abbott's woollen factory; head and fall eighteen feet.

Second, J. & G. Abbott's saw mill; head and fall eighteen feet.

Third, H. C. Parson's carriage shop, occupied by J. C. Grant; head and fall nine feet.

Fourth, C. W. Curtis & Co., carpenters' and sash and blind shop; head and fall nine feet.

Fifth, Geo. Bailey's carriage shop; head and fall nine feet.

Sixth, N. Dusten & Co.'s machine shop and foundery; head and fall twelve feet.

Seventh, Pennington & Tibbetts' furniture factory; head and fall ten feet.

Eighth, J. & G. Abbott's grist mill; head and fall twenty-two feet.

Ninth, Dexter Mills machine shop; head and fall sixteen feet.

Tenth, Dexter Mills woollen factory; head and fall twenty feet.

Eleventh, Charles Shaw's tannery; head and fall nine feet.

Twelfth, Dexter Mills picker house; head and fall eleven feet.

Thirteenth, Dexter Mills woollen factory; head and fall sixteen feet.

Fourteenth, Dexter Mills woollen factory; head and fall seventeen feet.

Fifteenth, lemon-box factory, occupied by Reuben Flanders.

Sixteenth, Francis Hill's woollen factory, occupied by ——— Campbell.

As appears in the above statement, all the falls have some machinery upon them, but very much might be added. The amount of manufactures might be nearly doubled. An excellent site for a cotton or woollen mill in place of the saw mill; also of the grist mill. The stream, or rather the pond, will furnish forty horse-powers under an eighteen foot head all the year. The dam at the foot of the pond usually flows it about eight feet in spring. Area of the pond not far from three and one-half square miles. No freshets, water all kept back. Machinery mostly excellent. The best wheels are an overshot, John Tyler, and Reynolds' turbine.

Seventeenth, on the same stream, just below its junction with Spooner's Pond stream, unoccupied; head and fall six feet.

Eighteenth, on the same stream, near the south line of the town, Libbey's saw and shingle mill; head and fall ten feet.

There are a number of privileges upon the Sebasticook main stream in the north part of the town. The stream is rapid and

rather inconstant. Will give twenty horse-powers five months of the year. Never has been a tight dam or good machinery upon it. Large quantities of hemlock, hard wood, and cedar on its bordering territory. On this stream are five privileges, as follows:

Nineteenth, Silver's saw mill; fall ten feet.

Twentieth, below, unoccupied; fall eight feet.

Twenty-First, about a mile below; ten feet fall.

Twenty-Second, somewhat south of the west line of the town, unoccupied; fall twelve feet.

Twenty-Third, Charles Jumper's saw and shingle mill; fall ten feet.

Twenty-Fourth, on a branch of the main stream, Silver's shingle mill; fall twenty feet.

Twenty-Fifth, at the outlet of Spooner's pond, saw mill and shingle mill; fall thirteen feet.

Twenty-Sixth, a short distance below on the same stream, unoccupied; six feet fall.

Spooner's stream will furnish fifteen horse-powers from five to seven months of the year. A good dam at the outlet of the pond. The Kenduskeag stream will furnish ten horse-powers four months in the year. Two privileges on said stream noticed, as follows:

Twenty-Seventh, unoccupied; ten feet fall.

Twenty-Eighth, on a branch; twenty feet fall; formerly a saw mill upon it.

Abundant slatestone on all the privileges, which is sometimes used for building; two stories of the largest factory are built of it. The improvement of the power has doubled the population and trebled the wealth of the town.

Market, Portland and Boston, by road to Newport, fourteen miles, thence by railroad. The Dexter & Newport railroad will cover the fourteen miles in July, 1868.

Dionne Plantation—Aroostook County.

Digested from the Assessors' Returns.

NINE POWERS.

First, on the Dufour brook, owned by Vital Dufour; not employed; at low water about two feet square in bulk. Good place to build a grist and saw mill. This stream originates from springs in the high lands. The fall averages about one in nine. Rocky.

Second and Third, on Gagnon brook, owned by Francis Marie

Gagnon, about four miles distant from the above, about three feet square in bulk, and if the upper part were cleared would be considerable more. One mill for sawing lumber three miles back, and two other mills near St. John river, (one saw and grist and other saw mills.) Originates from springs in the high lands; small branch coming from the northwest joining at lower mill. Sandy soil; much buckwheat raised.

Fourth, on Rosignol brook, owned by Pontif Rosignol, about same size as No. 1 stream, takes its rise from a small lake some six miles in the interior. The privilege is not employed, but is an admirable chance for a mill.

Fifth, on Bourgoin brook, owned by Benjamin Bourgignon (or Bourgoin); size as No. 1; not employed; good facilities for building; stream fed by rivulets. One mile from last mentioned.

Sixth, on Cyr brook, owned by Thomas Cyr, two miles from last mentioned. Small saw mill near river St. John. It runs only in high water of spring and fall; nearly dry in summer; springs from rivulets.

Seventh, on Gagnon brook, owned by Antoine Gagnon, three-fourths of a mile from last named; runs a grist mill; power not quite as strong as first named; springs from rivulets.

Eighth, owned by Elbridge Dunn, situated on third range of Dionne plantation; takes its source from two small lakes called Bourgignon lakes. About a foot square at low water.

Ninth, owned by Simond Chamberlain, runs a small saw mill, and is about same force as last named at low water.

The above brooks are capable in high water of running considerable machinery; but the parties owning the privileges are poor, and have means to erect buildings and machinery, merely to supply their own wants. The powers work only in summer time, spring and fall. On some of these, reservoirs could be built cheaply, to supply the mills all winter. No. 6 ground 12,000 bushels grain last year with one set "burrs." No export; all for home consumption.

Dixfield—Oxford County.

THREE POWERS.

First, Dixfield Village Falls, at the junction of Webb's river and the Androscoggin. Height of falls twenty feet in ten rods. A saw mill, grist mill, shingle mill, and woollen factory. Generally water enough for all. Connected with Weld pond. Seven or eight square miles in area.

Second, at East Dixfield, on a small stream; fall twenty feet in ten rods. Improvements not stated.

Third, at Dixfield Centre, on a small stream; fall not given. Improvements not stated. Granite abundant.

Manufactures, considerable at East Dixfield; quite important at Dixfield; their value not stated.

Market, Portland, by railroad.

Dixmont—Penobscot County.

Digested from Selectmen's Returns.

THREE POWERS.

First and Second, two powers at Dixmont Center, called Dixmont Center Falls.

Third, a power at North Dixmont.

Improvements: three saw mills, one axe factory, two shingle mills, and one grist mill. Not stated upon which falls the mills are located. The saw mills run about four months of the year. The grist mill works about nine months.

Market, Bangor, by road.

Dover—Piscataquis County.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Dover Great Falls," at Dover village, on Piscataquis river; fall 23·5 feet in 325 feet. The power at lowest run is "estimated equal to two hundred horse-powers, and at small expense may be raised to six hundred horse-powers."

Second, on Piscataquis river, one hundred rods below the bridge at Dover village; height of fall, six feet.

Third, "Dover Lower Village Falls," on Piscataquis river, at East Dover; height of dam, eight feet.

Fourth, "Dover South Mills" on Black stream; dam twelve feet.

Tyler wheel, Scroll wheel and Stevens wheel used.

All the above powers are improved in part, but at each fall considerable power remains unused. Mills operate or may operate all the year. Improvements not stated; incidentally observed or implied that there are a woollen factory and a grist mill.

Great Falls power owned by estate of S. P. Brown; East Dover power by Oren Brown; Dover South Mills by Frank Titcomb.

Reservoirs of large capacity upon the river are feasible at small expense. Rock, slate; land level about three of the falls; canalling possible; facilities for building, good. Proprietors will be glad to have surveys, and it is presumed partly at their own expense. A very important part of the property of the village of Dover and Foxcroft is due to the improvement of the power.

Market, Bangor, at present by road; hope to reach it by railroad in two years.

DRESDEN—LINCOLN COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First and Second, on Goud stream; former thirty feet descent in one hundred of distance; latter ten feet descent in a running distance of forty feet. Grist mill and saw mill; operate about six months; Percussion wheel,—formerly an overshot, which gave much more power than the present. A large bog, 300 acres in extent, could be flowed at little expense. No lakes or ponds. Range of water about six feet. Power would cut 100,000 feet of lumber, and grind 9,000 bushels of grain. Annual product about $800.

Third, Fourth, Fifth and Sixth, on Gardiner stream, averaging each about twenty-five feet in a total distance of two miles; small part of the power used. Poor grist mill. There were formerly a good grist mill and saw mill; both now greatly dilapidated. The power would saw 300,000 to 400,000 of lumber. Stream could work six months with the present volume of water. Poorest sort of wheels.

Stream connected with two ponds; Gardiner brook 150 acres in extent and twenty feet deep; also a large bog between the lake and mill, 300 acres, which might be flowed four or five feet. Second pond about seventy acres. The stream might be made to carry two or three saw mills.

Stone not good for building. No forest on basin; stream low in summer. Products about $200.

Market, at home.

DURHAM—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, on the outlet of a small pond in the western part of the town; grist mill, and saw mill which cuts 40,000 feet yearly; the two worth $1,500.

Second, in the northeast part of the town; grist mill and shingle mill; small stream; mill and privilege worth $700.

Third, near Southwest bend; grist mill, saw mill, shingle and clapboard mill; cuts 40,000 feet boards annually; worth $1,000.

Mills work about eight months in the year. Large peat bogs in the westerly part of the town.

Market, Lewiston, ten miles, by road.

EASTBROOK—HANCOCK COUNTY.

[See Appendix.]

EAST LIVERMORE—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

[See also "East Livermore and Livermore."]

TWO POWERS.

First, a privilege on the Johnny brook; a small power; works about half the time.

Second, a privilege on the Norris brook; a small power; works about half the time.

EAST LIVERMORE AND LIVERMORE—ANDROSCOGGIN COUNTY.

Digested from the Returns of East Livermore.

[See also "East Livermore"; and "Livermore."]

ONE POWER.

"Livermore Falls," on the Androscoggin river; height of the falls, twenty-two feet in thirty rods; upper fall, fourteen feet, then eight feet fall in the thirty rods.

Power.—If the volume of water be assumed to be fifteen per cent. less than at Lewiston, the lowest summer run would yield 79,900 cubic feet per minute, which upon a twenty-two foot fall will give a resultant of about 2,420 net horse-powers. This amount

could of course be much increased,—trebled by the improvement of the lakes above, for reservoir purposes.

Only a very small part of the power is now or ever has been used. There is no dam of any consequence; the owners contemplate the erection of one this season; the proprietors are, however, disposed to sell. There are upon the power at present, one saw mill, one grist mill, and some other small establishments; wheels, Kendall and Tuttle.

This power would of course, if employed, be available throughout the year, in equal proportion with other powers situate upon the Androscoggin. It "is regarded by those who have examined it, second to none on the river except the Lewiston."

The power and saw mill are owned by the Rocomeka Company; the grist mill by R. C. Boothby.

Rocks in the vicinity, quartz rock, not suitable for building. Lay of the land about the falls, excellent.

Market, Bath and Portland, by railroad.

A letter received just before going to press, from Hollis Turner, Esq., of Livermore, states that all the improvements made thus far are on the East Livermore side, except that the dam, building this season, extends nearly to the Livermore side; judges the advantages for improvement to be better on the Livermore side, the fall "being greater or susceptible of being made twenty-five or thirty feet, and the bottom better." Years ago a grist mill stood on the Livermore side, which did the grinding for both sides. A company from Massachusetts some years ago endeavored to purchase the land on the same side for the purpose of canalling from the upper fall, but failed on account of disagreement as to price.

East Machias—Washington County.

Digested from Selectmen's Returns.

SIX POWERS.

All of the above are within two miles of tide water, four of them on the main (East Machias) river, and two on Chace's stream.

The four privileges on the main river are situate between the head of tide and Hadley's lake, a distance of three miles; total descent in that distance, forty-seven feet.

First, "Lower Mills," at the head of tide; height of mill pond,

9·8 feet above mean high water; three saw mills, with lath mills, not much used at present, two grist mills and one planing mill.

Second, "Upper Mills," two thousand feet by the course of the river above the lower; height, 15·8 feet, or 25·6 feet above tide; two double saw mills or four single saws, and two lath mills. Three saws are about constantly employed.

Third, between these two dams, the water is rapid; a dam might be thrown across at any point. At present the privilege is occupied only by a gang and single saw mill, with grist mill and lath mill.

Fourth, "Jacksonville Mills," one and three-fourths miles by the river above the upper mills, with a further elevation of about twelve feet; thence to Hadley's lake, about one mile, and a further elevation of about ten feet.

Fifth and Sixth, at the outlet of Gardiner's lake on Chace's stream, which enters the main river above the Upper falls. Stream is three-fourths of a mile long, and its descent in that distance to the main river is thirty feet; two single saws, two lath mills, one shingle mill. At the point of confluence the main river is thirty feet above tide; Gardiner's lake, therefore, is sixty feet above sea level. Upon this stream are two single saws, two lath mills, and one shingle mill.

No estimate of the power by measurement has ever been made; judged sufficient to saw 50,000,000 of lumber annually. About one-fourth of the power is employed, in saw and grist mills. The dams are not tight; there is no economy in the use of water; the machinery, though good, is not the best for economizing power.

Mills operate from the 15th of March to the 15th of December; might work all the year but for the difficulty of getting stock to the mills after the ponds are frozen.

The lakes and ponds connected with the stream, of which there are a large number, can be improved for reservoirs at little expense and to an indefinite extent. Freshets are harmless; no damage for sixty years.

The power is owned by individuals and lumbering firms in the vicinity. Proprietors will aid in a survey. Granite abundant on Hadley's lake.

The power is not sufficiently improved to retain the growth of the place. Much wealth has gone to other quarters.

Market, all points reached by sea where lumber is wanted.

EASTON (Fremont's pl. on the map)—AROOSTOOK COUNTY.

Digested from the Selectmen's Returns.

THREE POWERS.

First, in the eastern part of the town, on the river Des Chutes.

Second and Third, in the western part of the town, on the Presque Isle river of the St. John.

Two of the powers are improved, each in a saw mill and shingle machine; the third is not improved. The mills operate about two-thirds of the year. The machinery is poor.

Small ponds. Basin heavily wooded.

EASTPORT—WASHINGTON COUNTY.

Selectmen's Returns.

ONE POWER.

No water-power in use in this town. The tide rises and falls eighteen feet, and a reservoir of several acres' extent for power purposes might be constructed by a dam across a cove in the vicinity.

EATON GRANT PLANTATION—AROOSTOOK COUNTY.

From the Assessors' Statement.

FOUR POWERS.

First, "one of the best unoccupied water-powers in the county," on the Little Madawaska stream. Said stream is some two hundred feet in width; about forty miles in length. Its last two miles of length are in this plantation, and in each mile it falls forty feet.

Second, Third and Fourth, smaller powers. "We have been trying to have a scientific survey made of these streams. If you send us the proper papers we will try and have it done, and will give you the proprietors' names, &c."

EDDINGTON—PENOBSCOT COUNTY.

Digested from the Selectmen's Returns.

FOUR POWERS.

All are situated on the Davis stream and within a total distance

of three-fourths of a mile; height of the whole fall forty-five feet in the above distance.

The power is sufficient to saw 2,500,000 long lumber and 5,000,000 shingles. On the first dam, saw mill, shingle mill, clapboard machine. On the second dam, shingle machine, three grist mills, and a carding machine. Mills operate all the year except in severe drouths. Stream connected with two ponds of about a thousand acres area. Rock abundant. Basin one-fourth covered with woods.

Market, Bangor, six miles, by road; and by water for long lumber.

EDEN—HANCOCK COUNTY.

[See Appendix.]

EDGECOMB—LINCOLN COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, on a small branch of the Sheepscot river, about a mile distant from Wiscasset village; a grist mill, which will grind about eighty bushels of grain per day. This is a tide mill and has a reservoir or pond of about five acres area. Height of fall, as given by proprietor, eight feet; works only a part of the day. Kendall wheel.

Second, at the southern extremity of a pond in the central part of the town; a grist mill and shingle machine. Height of fall, eighteen feet. Will grind 300 bushels of grain per day, and, as the supply of water is continuous and inexhaustible, it will work without cessation. Area of said pond is about 200 acres. Blake wheel. If said water-power were all improved, it would perform a vast amount of work.

Third, situated below that last named, on the outlet stream of the said pond; a grist mill. Height of falls, fifteen feet. Will grind about sixty bushels per day. Works about half of the year. Area of pond, about twenty acres. Tub wheel. If a modern wheel were used, a much greater amount of work would be performed.

Fourth, on a branch of the Sheepscot river, about four miles from the village of Wiscasset, upon which there were formerly located a saw mill, a grist mill, a clothing mill and a carding mill, which are

now in ruins. Height of fall, fifteen feet. A reservoir might be formed which would cover an area of 500 acres, and receive all the water from Second and Third mills. If said water-power were improved, it would be one of the most valuable in Lincoln county.

EDINBURG—PENOBSCOT COUNTY.

[See Appendix.]

EDMUNDS—WASHINGTON COUUTY.

From the Returns of Peter E. Vose and T. W. Allan, Esqs., of Dennysville, and of the Selectmen of Edmunds.

[See also "Dennysville and Edmunds."]

NINE POWERS.

First, on Cathance stream, the "Mill Seat," one mile from the mills at Dennysville; ten feet head; not improved; owned by T. W. Allan and the Lincolns. Rock bottom and sides to the stream; good chance to locate mills.

Second, Third, Fourth and Fifth, "The Flume," within three miles of the Mill Seat, fall averaging from six to fifteen feet each. No improvements; good chance to improve.

Sixth, "Great Works," four miles from Dennysville by the river; a gang saw mill, recently erected, owned by Hobart, Vose and others. The head and fall here are about eleven feet, and the pond has an area of at least 1,000 acres. This mill, taking into consideration the amount of water, head and speed, ought to cut 2,500,000 to 3,000,000 feet of long lumber per sawing year. There is also a lath and shingle machine connected with the same. This is a good power,—is owned in Dennysville. The lumber is hauled to and shipped from Dennysville, vessels of 100 tons taking it at the wharves.

The Cathance in most of its course is a rapid stream. It is, however, comparatively constant, being fed by the Cathance lake, a sheet of water six or seven square miles in extent, a large body of which is held in reserve by an outlet dam, which commands six feet head.

Fourth, a saw mill and a lath machine, in the same building. The stream is called Bell's Meadow brook, and has its outlet into Bell's Mill pond in Trescott.

Fifth: there is another stream called Burnt Cove stream, unimproved; a privilege of some capacity for a part of the year.

Sixth and Seventh, on George Little Falls stream; both good privileges. One, called the "Rock," one mile from tide water at Cobscook bay, with a dam of about forty feet in length and eight feet in height, would carry a number of machines for manufacturing purposes. The other privilege, called the "Falls," is of about the same capacity as the "Rock."

Eighth and Ninth, of somewhat less capacity, but if located in some parts would be improved to profit. The above privileges are owned by Isaac and Benjamin Hobart.

Elliot—York County.

Statement of the Selectmen.

There is no water-power in the town of Elliot, large or small.

Ellsworth—Hancock County.

Digested from the Statement of Eugene Hale, Esq., and from the Returns of the Board of Selectmen.

THIRTY-NINE POWERS.

First to Fifth, inclusive, on Card's stream, upon which there have been two saw mills, one shingle mill, one grist mill, and a carding machine. These have not been in operation for several years.

Sixth to Tenth, inclusive, on Beach Hill Pond stream; one only improved; a dam and shingle mill.

Eleventh to Sixteenth, inclusive, on Reed's Pond stream; two dams and mills; the others unoccupied. Height of the fall, sixty feet in half a mile.

Seventeenth to Twenty-Eighth, inclusive, on Branch Pond stream; fall ninety feet in three miles.

Twenty-Ninth to Thirty-Ninth, inclusive, "Ellsworth Falls," the principal power in town, situated on the Union river, at Ellsworth village and above, the total fall being eight-five feet in about two miles, or "one hundred feet in two and a quarter miles." Above this point the river is level for a long distance, the upper dam flowing the current back about ten miles and slackening it twelve or fifteen miles.

No estimate of the power has been made by measurement. The river is from ten to fifteen rods in width; the current in summer at low water, provided there were no dams, would be about four miles per hour, and when the river is full, about eight miles. The power can be trebled by the use of the lakes above for storage of water.

There are thirty-three ponds, containing from 100 to 4,000 acres each, eighteen of which will exceed 800 acres each, and twelve will exceed 1,000 acres each. There are also many smaller ponds. Most of the lakes and ponds have dams at their outlets for the sole purpose of driving logs in the spring, and these lessen the spring freshets materially.

Freshets have never caused but trifling damage upon this river, and none for the past twenty-five years worth mentioning. The range from low to high water may be perhaps six feet, where the river is narrow. The water now being employed wastefully sometimes runs low in severe drouths. As above stated, at slight expense a copious supply for the whole year could be secured, and for much larger use than is now made of the power.

The mills work about seven months in the year; lie still in the winter and early spring. They might be worked all the year, so far as regards supply of water.

The machinery has not been applied with any view to economizing power; the wheels, etc., are entirely ordinary.

Rocks in the vicinity, talcose slate, suitable for building. Lay of the land about the falls for almost the entire two and a quarter miles on the main river is favorable for the location of mills, workshops, boarding-houses, etc. Excellent opportunities offer for canalling and dividing the waters of the river. At one point, rather more than a mile from tide waters, a canal can be run for over half a mile, with a fall of thirty-two feet, and in no way interfering with the privileges above.

The proprietors will aid in a *thorough* survey. [The selectmen report an indisposition to aid in a survey.]

The power is employed almost exclusively in the manufacture of lumber. The mills have been running fifty years; have largely increased in numbers in the last twenty years, during which time the population of the town has increased from 2,000 to 5,000, and its valuation in corresponding ratio.

Average annual production, 35,000,000 feet of long lumber, 200,000 sugar-box shooks, 2,000,000 laths, 5,000,000 shingles, 200,000 clapboards, and a large quantity of smaller stuff. Value of annual production estimated from $700,000 to $950,000.

Accessibility.—The falls are situated upon tide waters and can be approached by vessels drawing —— feet of water. The river below the fall is frozen about four months of the year.

Market, New York, Boston, Portland, and Cuba; all reached by sea.

EMBDEN—SOMERSET COUNTY.

Digested from Returns of Selectmen, and of Wm. Atkinson, Esq.

[See also "Embden and Solon."]

FIVE POWERS, OR MORE.

First, at the foot of Embden pond, which contains 1,530 acres. Two saw mills, shingle machine, threshing machine, and turning-lathe, owned by Henry Pierce.

Second, eighty rods below the above, a valuable power owned by Mr. Morse, who is now erecting a saw and grist mill and other machinery upon it. Lay of the land excellent upon both privileges. Freshets have no effect. Very small part of the power used.

Third, abundant and quite valuable power, upon the Seven Mile brook.

Fourth, Fifth, etc.; there are several other powers in the town, sufficient to drive a considerable amount of small machinery nearly all the year.

"The four towns of Embden, Solon, Anson and New Portland, possess power sufficient to propel more machinery than is now operated in Lowell and Lawrence combined. We have all the natural advantages here for a great manufacturing community, climate, soil, labor, agricultural productions, and water-power. All that is wanted is the completion of the railroad now contemplated, and capital."

EMBDEN AND SOLON—SOMERSET COUNTY.

Digested from the Returns of Joseph P. Buswell, millwright, of Solon; Endorsed by the Selectmen.

[See also "Embden"; and "Solon."]

ONE POWER.

The "Caratunk Falls," on the Kennebec river, one mile distant

from the bridge across Fall brook in Solon village. Fall stated by Mr. Buswell to be about twenty feet perpendicular, at the head of which a dam ten feet high can be made, giving about thirty feet head and fall, or equal to the head and fall at Lowell.

Mr. Buswell judges the volume of water to be about half the volume of the Merrimac at Lowell, he having been employed upon the power there for fourteen years, and being therefore well acquainted with it. His judgment is probably nearly correct as respects the mean run for the year, but is probably an overestimate for the low run. The low run at Lowell in the summer is about 216,000 cubic feet per minute. Half of this, or 108,000 cubic feet per minute, is thirty-eight per cent. less than the mean summer run at Augusta. If the estimate for "Waterville and Winslow" as to the volume of water at low run is reliable, as it probably is, the run at Waterville above the confluence of the Sebasticook, is thirty-three per cent. less than at Augusta. Hence, low run at Caratunk falls may be inferred to be not over fifty per cent. of that at Augusta, or 87,750 cubic feet per minute. This, it will be understood, is the estimate for the low run as it now is, the lakes above being unimproved for reservoirs, and is therefore susceptible of being trebled by the use of the lakes for reservoirs. The power due to 87,750 cubic feet on a thirty foot fall is 4,980 horse-powers gross measurement.

The facilities for canalling by the falls and along the river bank a distance of three-quarters of a mile, are very good. Nature apparently has done the grading completely; no engineer could form the ground better. The panel of land, 160 acres or more, within the bounds of the county road on the east, the Falls road on the north, the river on the west, and Fall brook on the south, about one mile north and south by one-fourth mile in breadth, is equally well graded for the erection of buildings sufficient to accommodate the population necessary to work all the mills that the whole power of the Kennebec may drive. If more room is wanted, a level plain extends about two miles north and south by half a mile wide, east of the county road, affording ample space for a good-sized city.

The northerly two-thirds of the 160 acres, lying between the county road and the river, is owned by three or four individuals, who reside on the road and whose lots extend west to the river. The

westerly half of this plain along the river's bank is covered with young wood and no doubt may be purchased at a fair value.

Coolidge and Bodwell own some half a dozen acres abreast of the falls, including the water-power. B. F. Rowell of South Solon, owns the power on the west side of the river, in the town of Embden.

There is plenty of stone suitable for mortar walls, and an excellent granite quarry on the river bank fifteen miles above, with good facilities for boating down the river. Brick clay and sand are abundant in almost every direction within a mile or a mile and a half of the falls.

ENFIELD—PENOBSCOT COUNTY.

Digested from Selectmen's Statemeut.

[See also "Enfield and Howland."]

FOUR POWERS.

These are all located upon the outlet of Cold Stream pond; said pond has an area of eight or nine square miles. The entire series of privileges is called "Treat's Mills." The height of the falls is about fifty feet in eighty rods. There have been four dams upon the falls within the distance above named. There are now, saw mills, a shingle mill, and a grist mill upon the privilege. Machinery inferior; old style "ladle-board" wheel. Power owned by J. & E. H. Treat. Capacity of the pond can be increased by the erection of dams. Freshets have no effect.

Rocks, granite in part, good for building. Lay of the land excellent. Proprietors will aid in a survey. One-half the basin of the stream covered with forests; lumber was formerly manufactured here; less now. Improvement of the power has been of more benefit to operators than to the inhabitants of the town.

Market, Bangor, by road and rivers.

ENFIELD AND HOWLAND—PENOBSCOT COUNTY.

Digested from the Statement of the Boards of Selectmen.

[See also "Enfield"; and "Howland."]

ONE POWER.

"Piscataquis Falls," on Penobscot river. Height of fall, 100 feet in two miles, according to the returns from Howland. * The returns

from Enfield, having reference probably to only the more precipitous portion of the whole descent, give the height at twenty feet; so that both statements are not improbably correct in the sense intended. Perhaps only the twenty feet or thereabout would be available for power purposes, except at large expense. The power is that due to the entire volume of the Penobscot river at this point, which if so much as twenty feet of fall be available, is some thousands of horse-powers.

No part of the power is improved.

Etna—Penobscot County.

[See Appendix.]

Exeter—Penobscot County.

Digested from Selectmen's Returns.

TEN POWERS.

First, on Kenduskeag stream, a shingle-mill and grist-mill, fall about ten feet, and capable of manufacturing about 500,000 shingles per year; the grist-mill has two runs of stones and a corn-and-cob cracker; will run about eight months in the year; net annual productions about $500.

Second, on the same stream, a circular-saw mill, fall about twelve feet, capable of cutting about 500,000 of lumber a year; annual production is about $600. This mill does not do what it is capable of doing for want of lumber.

Third, on the same stream a circular saw-mill and a shingle-machine. Saw-mill capable of cutting 600,000 per year; shingle-machine about 300.000; fall about eleven feet; annual production of laths about $1,000. This mill does not do what it ought to on account of a want of energy on the part of the owner.

Fourth, a shingle-mill on the same stream, fall about ten feet; capable of manufacturing about 300,000 per year; production about $300 per year.

Fifth, on the same stream, an up-and-down saw, a shingle-machine, and two runs of stones for grinding grain; fall about twelve feet; saw-mill is capable of cutting about 300,000; shingle mill about 300,000; annual income about $1,500. This mill does nearly what it is capable of doing.

Sixth, on the same stream is a water-power for shingle mill, about nine foot fall; now being taken up for a shingle mill.

Seventh, on the same stream, a grist mill, machine shop, carriage shop and tan yard; fall about eleven feet. Annual production about $1,000.

Eighth, on the same stream a privilege not now in use, formerly a shingle mill; fall about twelve feet; of suitable capacity to manufacture more than either the other privileges by about one-fourth.

Ninth, a small shingle mill and grist mill upon the "Andrew's Brook," so called; fall about nine feet; capable of manufacturing about 200,000 shingles and grinding about four months in the year. Products about $350 per year.

Tenth, on the "Atkins' Brook," a privilege of about the same capacity as No. 9, above.

FAIRFIELD—SOMERSET COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, at "Kendall's Mills," a dam across the Kennebec river gives a fall of twenty-two feet in three-fourths of a mile; velocity of the current about five miles per hour; power is estimated sufficient to carry thirty saw mills; about half of the power is now used; works all the year; is owned by the Kendall's Mills Water-Power Company, C. H. Foss, Secretary. The value of yearly products is estimated at $250,000. The principal market is Portland, Boston and New York.

Second, at "Somerset Mills," a dam across the Kennebec river produces a fall of about twelve feet; on this dam are located seven saw mills and other machinery; not more than one-fourth the power is now used; works all the year; is owned by Silas Bates and E. & E. J. & G. W. Lawrence. Estimated value of yearly products is $75,000. If the low run volume of water be assumed to be thirty-five per cent. less than at Augusta, or 114,075 cubic feet per minute, the power of the two falls, thirty-four feet, is about 7,300 horse power gross; that at Augusta being 5,000 horse power.

Third, on Martin stream, about one hundred rods from the Kennebec river and Somerset R. R.; fall fifteen feet in about ten rods; sufficient power to carry four saw mills the most of the year; unimproved.

Fourth, on the same stream at Blacknell's Mills, so called, North

Fairfield, a saw mill, grist mill, and other machinery; works nearly all the year; located on the centre road leading to Skowhegan.

Fifth, about four miles up the stream from this point, located on the road leading to Norridgewock; fall about twelve feet in ten rods; of sufficient power to carry four saw mills the greater part of the year; saw mill, a tannery and other machinery. The water on this stream might be very much increased by removing obstructions at the head of the stream. The principal timber in the vicinity of the stream is hardwood, hemlock and cedar. A very good granite quarry within a mile of the stream. The water powers are located in the best farming section of the town, the soil being of a clay loam.

Falmouth—Cumberland County.

Digested from Materials Furnished by Hon. F. O. J. Smith, and by the Selectmen.

FOUR POWERS.

First, "Presumpscot Falls," on the Presumpscot river, two and a quarter miles by the course of the river from Casco bay, being the lowest water-power upon the river. This privilege is owned by a corporation known as the Presumpscot Land and Water-Power Company. The corporation propose erecting a dam at the falls, 900 feet in length and twenty-two feet above mean low tide, and conducting the water from the pond thus formed, by canal, to a point in the "lower harbor" of Portland, where eleven feet of water are found at mean low tide. The flats from the adjacent shore out to this point will be filled in, and extensive accommodations for mills and factories be thus formed, where ships can discharge into and receive cargo directly from the buildings. The amount of fall for power purposes will vary from thirteen to twenty-two feet, according to the stage of the tide.

The canal is already considerably advanced toward completion, being one hundred feet wide at its base and narrowest points, and one hundred and thirty broad at its surface, and ten feet deep in the shallowest parts.

A hydraulic dock is contemplated, into which vessels with or without cargoes can be lifted by means of a lock 350 by 60 feet, and the dock being discharged at low tide, if so required, the vessels be left high and dry upon a cradle or outspread bed timbers. The

dock will contain twenty-five acres. Other basins and reservoirs above this will be formed by the canal embankment, with an aggregate area of fifty acres.

The Grand Trunk railway runs by the side of this property. The main improvements will be within about a mile of the Victoria wharves in Portland harbor.

The water-power being that of the whole Presumpscot river, will be to a remarkable extent characterized by equability, exemption from freshets and periods of low water.

Material for the best of bricks is afforded by the entire body of soil in the vicinity; granite (gneiss) is abundant and accessible, and building materials of all sorts can be dropped from the railway upon the premises of the corporation.

The corporation intend to build only a saw mill and several ice-houses, and for the present to supply privileges by sale or rent, and to leave to individual capitalists and corporations the work of erecting the required superstructures.

The above statement is condensed from the printed report of the company, which may be had upon application to the Hon. Francis O. J. Smith of Portland, a member of the corporation. The report sets forth the singular advantages of the privilege with great perspicuity and force. This corporation, or rather the member referred to, holds a charter, granted March 15, 1836, by the Legislature of Maine, authorizing the construction of a canal from the Androscoggin river at Bethel to Songo pond, the head waters of the Presumpscot river, which canal should command the delivery of the Pleasant river, a branch of the Androscoggin, for its feeding. The charter further authorizes the building of a dam across the Androscoggin at any point in Bethel, which shall not raise the surface thereof at any point over four feet, and which shall not direct the water of the river (Androscoggin) into the canal aforesaid. The construction of the canal would therefore not affect the manufacturing capacity of either the Androscoggin or the Presumpscot, except to the amount of substracting the delivery of the Pleasant river from the one and adding it to the other. This would be the case at least except perhaps in times of great freshets upon the Androscoggin. The canal would be from four to five miles long, and could be "constructed with insignificant cost."

Second, the "Lower Falls," on the Piscataqua river; a good dam, a grist mill, and spoke-and-hub manufactory; the fall is fifteen feet in the distance of sixty feet. No estimate of the power has ever been made by measurement. The owners of the mills say that they can work their machinery all the year round. Wheel, centre-vent. The stream is connected with Goose pond, and is fed by living springs. The freshets on this stream are quite heavy but never cause any damage to the mills. The lay of the land for mills, &c., is good. Yearly products of the spoke-and-hub manufactory is about $4,000.

Third, "Piscataqua Upper Falls," about one-fourth of a mile above the lower falls; fall, fourteen feet; a saw mill that cuts about 250,000 lumber per year, with water enough to saw double that amount, and half the year water enough to run double the machinery that they now have. Wheel, spiral-vent.

Fourth, a tide mill. No specifications.

Farmingdale—Kennebec County.

Statement of Selectmen.

There is no water-power in this town.

Farmington—Franklin County.

Digested from Selectmen's Returns.

[See also "Chesterville and Farmington."]

THREE POWERS, ETC.

First, on the Temple stream, so called, which unites with Sandy river near the centre village, upon which are a saw mill and grist mill; the former runs fall and spring, and the latter all the year round, or nearly so.

Second, situated on the Temple stream, about three miles above Walton's mills; a saw mill upon it.

Third, on the Fairbanks mill stream, so called, with a grist mill and saw mill upon it. The mills at this point usually lie idle a portion of the year for want of water.

Abundant and excellent rock, for building purposes, and an immense quarry of granite in the immediate vicinity of Farmington Falls.

Other small powers of no present importance.

Fayette—Kennebec County.

Digested from Selectmen's Returns.

FIVE POWERS.

First, "Fayette Mills," owned by R. B. Dunn, fourteen feet fall in a run of twelve feet; is about one-half improved by scythe-shops, running ten trip hammers, with required machinery to finish scythes. Mills work all the year; the machinery is not of the best construction for economizing power. The stream is connected with and fed by nine large ponds. The rocks about the fall are of a slaty character and are good for building purposes. The lay of the land is good for the location of mills and workshops.

Second, in the west part of the town, fourteen feet fall, sufficient power to drive three up-and-down saws, two turning lathes, one planer and one moulding machine. Mills operate all the year. The stream is connected with three ponds of considerable size; the land around the falls is adapted to improvement.

Third, in the northerly part of the town, eleven feet fall, sufficient power to carry two up-and-down saws; is improved by one up-and-down saw, two circular saws, and one shingle saw; works nine months in the year; water supplied from one pond.

Fourth, situated in the southerly part of the town, twenty feet fall, would carry three up-and-down saws and one shingle saw; works six months in the year; the water is supplied by the Berry Pond, so called, which might be cheaply dammed so as to supply sufficient water to carry the mills the year round.

Fifth, fifty rods below, fifteen feet fall which is not improved.

Fort Fairfield—Aroostook County.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Randall's Mills," on Fitzherbert stream; a grist mill, which turns out 15,000 bushels of grain annually; a saw mill, clapboard machine and shingle machine on the same power, are in operation about half the year, intermitting in the drouth of summer and the dead of winter.

Second, "Barnes' Mills," on Lovely brook; a grist mill, carding machine and clothing mill operate about three months of the year, and turn out a large quantity of work. There being no woollen

factories in the county, wool from a large circuit is carded and the cloth dressed at these mills, the machinery being in operation night and day from early spring to late autumn. The grist mills, saw mills, shingle and clapboard machines are always overstocked with work.

Market, "Boston, Mass., or St. John, N. B., for the practical reason that the province of N. B. affords us an outlet to the 'outer world' by both rail and water, both of which are denied us in our own State."

No lake connections except by Fitzherbert stream only, and those not important. Freshets, at least ten times the ordinary volume of water; never have caused any serious damage.

Fort Kent—Aroostook County.

[See Appendix.]

Foxcroft—Piscataquis County.

[See Appendix.]

Frankfort—Waldo County.

[See Appendix.]

Franklin—Hancock County.

Digested from the Statement of R. F. Gerrish, Esq., Agent of the F. L. M. & W. P. Co.

FIVE POWERS.

First, "Downel Pond Privilege," sixteen feet head. Said pond contains several hundred acres and has various contiguous supplies.

Second, "Alderbrook Privilege," about fourteen feet head; stream supplied by Downel Pond and the drainage of the stream.

Third, "Hog-Bay Privilege," supplied by Downel Pond and Alderbrook stream.

Fourth, Fifth, etc., "Taunton Privilege," "Egypt," "Scammon," and several other minor powers in the vicinity of these.

The first three powers operate all the year, or the first two all, and Hog-Bay nearly all. The others operate from one-half to two-thirds of the year.

The larger powers are capable of manufacturing many millions of

lumber yearly. There are dams, mills, etc., on each of the first three where long lumber, etc., is manufactured extensively annually. The others manufacture laths, shingles, clapboards, staves, headings, pickets, etc.

Wheels mostly in use are an old style of iron wheel, that uses water without stint. At Hog Bay some more modern machinery has recently been put in.

The Downel Pond and Alderbrook privileges, land and mills are owned by the "Franklin, Land, Mills and Water-Power Company"; the Hog Bay mills, by Messrs. West & Macomber; "Egypt," by Wm. Salisbury; Taunton, by various parties; Scammon, by Hoyle, Gladding & Co.; others variously.

The capacity of the lakes and ponds can be very extensively increased, and artificial reservoirs of great capacity formed, and the supply of water made adequate to any demand. The streams are constant; freshets are never destructive.

Rock, hard blue slate, boulders, and a large amount of superior granite, close at hand.

Lay of the land good, almost without exception; at "Downel" and "Alderbrook" ample and eminently convenient.

Vast quantities of hardwood, spruce, pine and hemlock, sufficient to stock the mills for many years; ship timber abundant; the growth is more than equivalent to present demand.

The improvement of the power has gradually and permanently increased population, and has added to the wealth of the place. Sixteen new dwellings erected this past year, 1867.

Annual productions for the past four years, about ten millions of lumber yearly; double could be done annually. Markets, mainly Boston and New York; occasionally Philadelphia, and the coast, by sea.

The Franklin, Land, Mills, and Water Co., have one of the most liberal, (and 'tis perpetual,) charters from the Legislature of our State; a present capital of thirty-two thousand dollars, with the right to extend it to fifty thousand dollars. Its lakes, streams, and water-powers, are so completely within its own territory that any flowage now required, or that would be, are entirely within our own control; tribute for water privileges being paid only to us. We are near the head of tide-water on "Frenchman's Bay" where vessels of 500 tons and upwards can come near to our shores. A few years

since a ship of 1,200 tons was built and launched here. Vessels are built here annually; ship timber, of superior quality, abounds here and in the vicinity. In fine but few places, comparatively, offer superior inducements to capitalists who wish to invest in these interests, to Franklin, and especially the lands, some twelve thousand acres of which belong to said company.

Franklin Plantation—Oxford County.

Statement of the Assessors.

FIVE POWERS.

All the above are situated upon Spear's stream, a tributary to the Androscoggin river. Said stream furnishes sufficient water for sawing about half of the year.

First, fall eleven feet, shingle machine.

Second, fall sixteen feet, saw mill.

Third, fall twenty feet, unoccupied.

Fourth, fall fourteen feet, unoccupied.

Fifth, fall twenty feet, unoccupied.

Freedom—Waldo County.

Digested Mainly from the Report of A. J. Billings, Esq.

FIVE POWERS.

These are situated upon a stream issuing from a pond that at high water covers about a square mile, and at low about one-third of that area. Total fall, seventy feet. Sufficient water to use 100 square inches under ten feet head, during ten hours in each day, through the dry season.

First, twenty-two feet head; a flour mill upon it.

Second, fourteen feet head; a corn mill upon it. About 14,000 bushels of grain manufactured in the two grist mills jointly, yearly.

Third, twelve feet head; a saw mill, shingle mill, etc. Production, $700.

Fourth, thirteen feet head; carding machine, machinery for manufacturing cloth. Production, $1,100.

Fifth, nine feet head; tannery. Production, $1,000.

Freshets harmless. Stream very constant. Area of the pond could not be increased. Machinery excellent; the Boston wheel and close wheel.

FREEMAN—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Oliver Falls," in the north part of the town, on a branch of Seven Mile brook.

Second, "Starbird Falls," on a branch of Sandy river.

Third, "Crosby Falls," in the centre of the town, on a branch of Sandy river.

Improved in mills for sawing lumber, threshing grain and clover seed. Turbine wheels. No lakes or ponds. Rocks not suitable for building purposes.

Market, Farmington, by road.

FREEPORT—CUMBERLAND COUNTY.

From Selectmen's Returns.

TWO POWERS.

First, at the head of tide waters on Narrasekett river; fall, forty feet; stone dam. This power has been sufficient to run a grist mill with three runs of stones, and a saw mill with other machinery attached. The above mills have been destroyed by fire; privilege for sale.

Second, on the eastern branch of Royal's river; grist mill and saw mill; water sufficient to run a part of the year.

FRIENDSHIP—KNOX COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

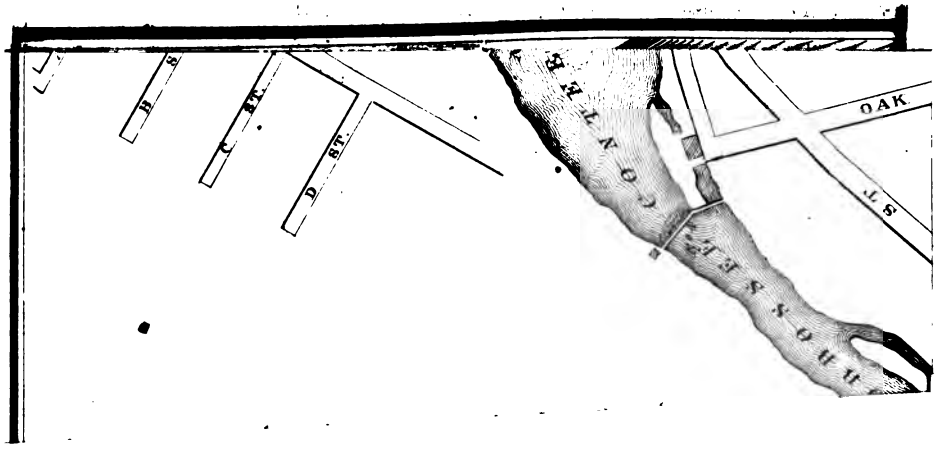
First and Second, on Goose river and Goose pond; fall, twenty feet.

Third, on Beckett's brook; fall, twenty-five feet in thirty rods.

Fourth, Fifth and Sixth, tide privileges; one with a good stone dam.

One privilege only is improved, in one saw mill and stave mill. The fresh-water powers operate ten months of the year; salt-water, twelve hours per day the year through. The streams are connected with two small ponds. Artificial reservoirs are feasible. Good stone for building.

Market, Thomaston, by road.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FRYEBURG—OXFORD COUNTY.

[See Appendix.]

GARDINER—KENNEBEC COUNTY.

Digested from the Returns of R. H. Gardiner, Esq., and from Articles in the Kennebec Journal.

EIGHT POWERS.

All of these are situated in the city of Gardiner on the Cobbossee-Contee river within one mile of the mouth thereof, and taken together are called the Cobbossee-Contee Falls. The total height of the falls is one hundred and twenty-seven feet above high tide; and one hundred and thirty-three feet above low tide in the Kennebec river.

The power of the whole fall, estimated by a skillful hydraulic engineer, during the year ending July, 1866, being the year of the greatest drouth ever known in New England, and during October, the driest month of that year, is 1,200 horse.

All of the mills work throughout the greater portion of the year by day and by night. Upon the dams where all the power is used, a portion of the machinery is sometimes obliged to lie idle for two or three months. In such a year as the present, 1867, everything is running.

About half of the power is employed.

The machinery is not of the best construction for economizing power. The Blake wheels are mostly used.

Six of the eight privileges, upon all of which are strong well-built stone dams, are owned by the heirs of the late Hon. R. H. Gardiner; one is owned by F. G. Richards, and one by S. D. Warren, of Boston, Mass.

The stream is connected with eighteen ponds. The largest of which has a surface of fourteen square miles of deep water, and the whole from twenty-five to thirty square miles. The capacity of the ponds can be increased greatly by the erection of dams, and at slight expense, and likewise by lowering the channels at the outlet. Three of the ponds have dams already built at their outlets. Artificial reservoirs are entirely feasible at moderate cost, and would vastly increase the power. The Cobbossee-Contee, and its tributaries, drain two hundred and fifty square miles.

Owing to the extent of its reservoirs the stream is very safe from freshets; the total range of water on the crest of unoccupied dams seldom exceeds two feet.

Stone and other building material abundant. Lay of the land about the falls excellent for the location of buildings. Sufficiency of land connected with each dam for all required building purposes.

Six of the eight dams, including land and privileges, are for sale; or a large amount of power to rent. Proprietors would assist in surveys required for the development of the power.

First power, reckoning from the foot of the falls; dam one foot, head 18·28 feet. Eleven establishments, engaged chiefly in the manufacture of lumber as follows:

Saw mill, N. O. Mitchell, forty hands; annual product four to five million feet of lumber, $175,000.

Saw mill, Arthur Berry, forty men; annual product $150,000; in long lumber, shingles and clapboards.

Sash, blind and door factory, Jos. L. Mitchell & Co., six hands.

Saw mill, Daniel Grey, sixteen hands; product two millions lumber long and short, $80,000.

Sash and blind factory, P. S. Robinson, six hands; one million clapboards and $2,000 of sash and blinds.

Cabinet shop, Jas. Nash, $8,000; also Cabinet shop, Morgan & Wadsworth, $10,000.

Gardiner Plaster Mill, $7,000.

Lumber manufacture, H. W. Jewett, thirty-five hands, $70,000; also in same business, Hooker, Libby & Co., $60,000.

Gardiner Flour Mill, manufacturing forty thousand bushels of wheat yearly. In the same building, Bartlett, Dennis & Co., a grist mill, sixty thousand bushels a year. Power all occupied.

Second power, dam two feet, head 11·01 feet. Power about half employed, as follows:

Machine shop, foundry, etc., P. C. Holmes & Co., twenty-eight hands, annual product $45,000.

"Blake" water-wheel manufactory, Atwood & Howland $8,000.

Third power, dam three feet, head 19·01 feet. About half occupied, as follows:

J. E. Ladd & Co., Millwrights; fancy goods manufactory, Chas.

Swift, $10,000; mill work, H. Scriber, Jr., $8,000 iron work; E. Drake, $10,000 wood work.

Woolen Factory, I. N. Tucker, six sets of cards, forty hands; four hundred and fifty yards per day; $120,000 yearly product.

Washing machine factory, R. W. George, $5,000.

Broom factory, Moore & McCausland; Broom handles, Augustus Lord; mill work, Joseph Perry, eight hands, $24,000.

Saw mill, Joshua Gray, twenty-five hands, total product, $60,000, long lumber and short.

"People's Grist mill," 7,000 barrels flour, $100,000.

Fourth power, dam four feet, head 16·18 feet, half occupied, as follows:

Two small saw mills, Lincoln Perry and R. T. Hayes & Co.

Carriage spring factory, Wentworth & Butler, six hands, $15,000.

Axe factory, Elbridge Berry, $7,500.

Forge, owned by P. C. Holmes & Co.

Fifth power, dam five feet, head 16·30 feet; wholly unoccupied.

Sixth power, dam six feet, head 16·69 feet; Copsecook paper mill, owned by S. D. Warren, of Boston; paper for books and newspapers. Annual product five hundred and fifty tons, $175,000. Thirty-eight hands; power about half employed.

Seventh power, dam seven feet, head 15·51 feet; fully occupied. Paper mills, Messrs. Richards & Co., yearly product nine hundred tons, $400,000. Seventy-five hands.

Eighth power, dam eight feet, head 13·38 feet; wholly unoccupied.

Total number of hands employed four hundred and ten. Total annual product two million dollars.

GARLAND—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

TEN POWERS.

All the above, with one exception, are situated on the head waters of the Kenduskeag stream. There are no precipitous falls, but a gradual descent from the west line of the town to the southeast corner. About one-fourth of the basin of the stream in the town, (or about five square miles) is covered with forest.

First, situated at the upper or west side of the town; fifteen and one-half feet head; runs a circular-saw mill, with Hopkins wheel,

about one-third of the time; will cut about 500,000 or 600,000; also a shingle mill, with Tub wheel, running one-half the time, cutting about 500,000; also a grist mill, with Carlton wheel, two runs of stones, earning about $200. The dam flows about one mile.

Second, about forty rods below; an old saw mill with Turbine wheel and ten feet head; will saw about 200,000 feet.

Third, about fifteen rods below; a planing mill and rake factory; six feet head, Tub wheel, earning some $1,200. On the same power are a machine shop, carding mill, cloth dressing and weaving; turbine wheel. This last is just put in operation.

Fourth, a shingle mill, about 100 rods below; ten feet head; Stearn's wheel; will cut about 500,000; runs one-half of the time.

Fifth, one and three-fourths miles below; an up-and-down saw, with Tub wheel; thirteen feet head; cuts 500,000; runs one-third of the time; planing mill, Tub wheel, two planing machines, turning lathe, edging saw, and some other machinery; will earn about $1,000; full time. Also a grist mill, with three runs of stones, one of which is for flour; just put in operation; the wheels used are new, got up by Charles T. Carlton, and work well; pond flows one and one-half miles; full time.

Sixth, about seventy-five rods below; a tannery; six and one-half feet head; Stearn's wheel; amount of business, $5,000.

Seventh, one mile below; an up-and-down saw; Stearn's wheel, running one-half the time; cuts some 500,000; nine and one-half feet head; flows three-fourths of a mile. Also shingle mill; Stearn's wheel; one-half time; cuts about 500,000.

Eighth, unoccupied; seven feet head; about one mile below the last named.

Ninth, some fifty rods below; a circular saw, with centre-vent scroll wheel; twelve feet head; earns about $1,000. Also shingle mill; scroll wheel; about $800.

Tenth, on Black stream, in the extreme north part of the town; seven feet head; a shingle mill; Tub wheel.

The outcropping and underlying rocks are the argillaceous slate.

Market, at home, except for shingles, which is Bangor, by teams.

GEORGETOWN—SAGADAHOC COUNTY.

Digested from the Returns of B. F. Hinckley, Esq.

FIVE POWERS.

First, a tide power on Robin Hood's Cove; saw and shingle mill; also shingle and grist mill; does a large amount of business.

Second, a tide power on Eastern branch of same cove, unimproved; will carry three or four saws.

Third, "Wyman's Privilege," a tide power, unimproved.

Fourth, on the outlet of Nichols' pond; a carding and shingle mill; room for an overshot wheel fifteen feet in diameter.

Fifth, in connection with a great meadow, whose outlet has a long and steep descent; can be greatly improved by a dam.

Machinery very good. Turbines.

Market, Boston, by water.

GILEAD—OXFORD COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, a grist mill on Pleasant brook; can operate two runs of stones a few months yearly. Not now in operation.

Second, a saw mill on Chapman's brook; can operate but a short time yearly. Not now in operation.

Third, a mill partially completed on a small stream; not considered of much value as a water-power privilege.

Fourth, a stream with abundant water but uncontrolable, called Wild river; dam after dam has been swept away by freshets, and a mill formerly upon it was carried off; it is now not used at all as a water-power.

GLENBURN—PENOBSCOT COUNTY.

Statement of the Selectmen.

A part of Pushaw lake is in Glenburn, and by building a dam at a certain point in Orono, where the water now escapes and runs through a part of Glenburn into Kenduskeag river, in time of high water, and also building a dam on the natural outlet in Hudson or Oldtown, a reservoir of water might be formed about six feet deep and about nine miles long by two miles in width, including the whole lake.

A subsequent communication from Martin Mower, Esq., furnishes the following memoranda: Area of the Pushaw lake, twelve square miles. Area of surrounding land that can be flowed by a dam, twenty-four square miles. Height of lake above tide waters, 100 feet. Seven pitches, each over fourteen feet. Length of canal, three and a half miles; cost of its construction,—four by twelve feet, including dams at the outlet,—$8,867.00. Average constant power, 187 horse on each fall. The lake, with twelve square miles' surface and eight feet head, will furnish 2,676,326,400 cubic feet of water, available on the whole hundred feet of fall.

It will be observed that the improvements suggested above will necessitate the diversion of the waters of the lake from their *natural* channel of discharge into the "Stillwater Branch" of the Penobscot, into the Kenduskeag river. This might have an injurious effect upon the efficiency of the powers upon that branch at the season of extreme low run, the lake now serving as a reservoir readily commanded for the use of said powers. It would however have a most beneficial effect upon the privileges on the Kenduskeag. When the great lakes about the sources of the Penobscot shall have been converted into reservoirs, doubtless the change can be made without any detriment to the Stillwater powers.

GLENWOOD (formerly No. 2, R. 3, W. E. L. S)—AROOSTOOK COUNTY.

[See Appendix.]

GORHAM—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

[See also "Gorham and Windham."]

SIX POWERS, SMALL.

First, near the centre of the town, on Little river, "Davis Mill," twelve feet head, and about twenty horse-power. A saw mill, grist mill, and stave mill; centre-vent water wheel; mills work half the year; falls are formed by a cut through the solid ledge. No lakes or ponds. Range from high to low water, about four feet.

Second, two miles below the Davis mill, "Cloudman's Mill"; eight feet head and about twenty horse-power; saw and threshing mill. Centre-vent and spiral wheels; saw mill used all the year.

Third, "Curtis's mill," near the south part of the town, on Stroudwater river; ten feet head and twenty-five horse-power; stone dam; saw mill, grist mill, carding mill and shingle mill. Tuttle wheel, highly esteemed for economizing water. The power will run one mill all the year. Fall formed by a cut through the solid ledge. The stream is connected with a small pond.

Fourth, "Shaw's Mill," in the northwest part of the town, on the north branch of Little river; ten feet head, and about twenty horse-power; saw mill, shingle mill, &c. The supply of water is small; mills run about four months in the year.

Fifth, one and a half miles below Shaw's mill, on the same stream, is "Libby's Mill," with fourteen feet head, and about twenty horse-power; unimproved; formerly a saw mill upon it. This power has a fall of twenty-two feet, and would run a saw mill the greater part of the year.

Sixth, in the west part of the town, on Little river, formerly a mill, but now entirely unimproved. Several other falls upon which formerly were mills of various kinds, have long been unimproved.

The streams upon which these small powers are located, are very variable in their volume. Spring freshets often cause them to overflow their banks, while in summer the supply of water is small. They are, generally, unconnected with lakes or ponds, and flow through cleared land. Artificial reservoirs could not well be constructed.

GORHAM AND WINDHAM—CUMBERLAND COUNTY.

Digested from the Reports of the Boards of Selectmen.

[See also "Gorham"; and "Windham."]

NINE POWERS.

All of the above are situated on the Presumpscot river, which forms the common boundary of Gorham and Windham.

First, "Harden's Falls," one mile from the outlet of Sebago lake; eleven feet head. The power on the Gorham side is owned by Goff & Plummer, and is improved in part, the improvements consisting of one double saw mill, a keg mill, and other machinery that is used in connection with saw mills. Windham side, owned by the Anderson heirs; unimproved.

Second, one mile below Harden's falls, "Great Falls," with sixteen feet head. The power is owned on the Gorham side by John

Lindsey, and improved in part with grist mill, plaster mill, saw mill, &c. Windham side is owned by Wm. H. White and Walter Corey; improved by Mr. White with two saw mills, one gang of saws, grist mill, box mill, &c.; by Mr. Corey with a chair factory.

Third, half a mile below Great falls are "Whitney's Falls," with fourteen feet head. The falls are unimproved, and owned on Gorham side by Jefferson Mayberry and others, and on Windham side by Joseph W. Parker and J. Walker.

Fourth, half a mile below Whitney's falls, "Island Falls," with ten feet head. This power is unimproved, and owned on Gorham side by Solomon Libby, and on Windham side by O. Haskell.

Fifth, nearly a mile below Island falls, "Dundee Falls," with eighten feet head. The power is unimproved, and is owned on Gorham side by Solomon Libby, and on Windham side by Frank Mayberry.

Sixth, nearly a mile below Dundee falls, "Leavitt's Falls," with twelve feet head. This power is unimproved and is owned entirely by the Oriental Powder Company.

Seventh, a mile below Leavitt's Falls, are "Gambo Falls," with sixteen feet head. This power is improved, in part, and owned entirely by the Oriental Powder Company. The improvements consist of the extensive Powder works of this company.

Eighth, a mile below Gambo falls, "Little Falls," with seventeen feet head. This power is unimproved and is owned by Watson Newhall.

Ninth, half a mile below Little falls are "Mallison Falls," with eighteen feet head. This power is owned on Gorham side by Stevens and Ray, and improved in part with a grist and saw mill. On Windham side the improvements consist of a woollen mill, and are owned by the Mallison Falls Manufacturing Company.

The head on the above falls is susceptible, in several cases, of being nearly or quite doubled. The horizontal, or running distance in which the descents above specified are attained, varies in the different cases, from one-fourth to one mile.

No estimate, by measurement, has ever been made of any of these powers, other than a survey of the head at each fall, which was made several years ago. But a small part of the power at either falls is used. With scarcely an exception the mills work all the year. The machinery is not of the best construction for economizing power.

At Harden's falls, the Centre-vent and Spiral wheels are used; at Great falls, the Centre-vent and Kendall wheel; and at Gambo, thirteen water wheels are run, from tubs to turbines.

The river is the outlet of Sebago lake, Long pond, and nearly thirty smaller bodies of water, and numerous rivers. At the outlet of the Pond is a dam, of fourteen feet head, capable of an increase of several feet. The head waters being so entirely under control, there are no freshets. The stream is almost entirely uniform throughout the year, varying from low to high water not over two feet. The out-cropping and underlying rocks, about the falls, consist of blue flint, granite, mica schist, &c., and are regarded as very suitable for building purposes. The lay of the land, about the falls, is excellent for the location of mills, workshops, &c. Every proprietor, whom we have seen, is disposed to bear part of the expense of a survey of his power.

We have no means of knowing what proportion of the basin of the stream is covered with forests, but from the estimate of others judge it must be about one-third.

Of the nine powers here noticed, but four have any improvements upon them, and being nearly all used in the lumbering interests, the effects of the improvement of the power upon the wealth and population of the town have not been very marked. At Great falls a small village has been built up. At Gambo, the land, buildings, &c., for a considerable extent, are owned by the Oriental Powder Company. Their improvements have not tended, very materially, to influence the wealth or population at that place. At Little falls, formerly there were a cotton factory and saw mill. The former was burned down several years ago and has never been rebuilt. At these falls is a small village.

The nearest market is Portland, distant from the different falls from ten to fifteen miles; accessible by teams, or the Cumberland and Oxford canal, which, on the Gorham side, passes in close proximity to the falls.

GOULDSBOROUGH—HANCOCK COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, at Prospect harbor, on Prospect Harbor stream, the outlet

of Forbes' pond. The pond is about a mile square, and is about a mile above the privilege. Fall twenty feet in a running distance of six hundred feet. No part of the power is improved.

Second, at Winter harbor, on Winter Harbor stream. Fall about twenty feet in six hundred; entirely unimproved. Privilege close upon tide.

Third, at West Bay, on West Bay stream. Height of falls not given; runs from low land; is not connected with a pond, except with Jones' pond, remotely. Saw mill, two shingle mills, and grist mill. Power only partially improved; operates during half of the year.

Fourth, at West Gouldsborough, on Jones' stream, the outlet of Jones' Pond; said pond is 2 x 1 miles. Fall forty feet in forty rods; saw mill, grist mill, shingle mill, and a cabinet shop. Power partially improved; mills operate all the year.

None of the machinery, on the above powers, is economical of power; privileges are owned by various parties in the vicinity; the ponds are susceptible of large improvement for reservoir purposes; artificial reservoirs are feasible; freshets not destructive.

Rocks not suitable for building purposes; lay of the land good, in all cases, for building. The improvement of the power has been of considerable benefit to the town; might be of much greater.

Market, chiefly Boston, by water; this applies to all the points specified. Aggregate annual products, $10,000.

GREENVILLE—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, on Wilson's stream; falls one hundred feet in 1·5 miles; will saw 1,000,000 feet of boards; saw mill formerly,—carried away by freshets in 1846; can operate ten months; owned by the town.

Second, on Eagle stream; six feet fall in twenty-five; will saw 75,000 feet boards; saw mill; will operate two months.

Third, on West Bay stream; fall, ten feet in ten rods; saw mill, shingle, clapboard and grist mill; will saw 250,000 of boards; operates eight months.

Fourth, on Whitcomb brook; fall, ten feet in twenty; saw mill; operates six weeks; will saw 50,000 boards.

Old-fashioned Flutter wheels. Power only partially improved. Wilson stream fed by Wilson pond; West bay by the West bay. Slate rocks. Powers have contributed to the prosperity of the town.

Market, Bangor, by road.

GREENWOOD—OXFORD COUNTY.

Digested from Selectmen's Statement.

EIGHT POWERS.

First, at the outlet of Hick's pond.

Second, "Richardson's Mill," on Sanborn river.

Third, "Hick's Mills," saw and shingle, at the outlet of Twitchell's pond.

Fourth, at the "McKenney Falls," on the Morgan stream, height one hundred feet.

Fifth, "Bacon Falls," on a branch of the Little Androscoggin river, height fifty feet; unimproved.

Sixth, on the Little Androscoggin; unimproved.

Seventh, "Lock's Mills," a grist mill, saw mill, carding mill, excelsior factory, etc. This is upon Alder river, which issues from ponds covering 1,500 or more acres, and is a valuable and steady power, perfectly safe and constant at all seasons. The larger pond can be raised four feet by a dam for a reservoir.

Eighth, a saw mill, in the northwest part of the town.

GRAFTON—OXFORD COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Screw-Augur Falls," on Bear river, in the southeast part of the town; height of the falls, fifty feet, in a running distance of one hundred feet; saw mills upon it.

Second, "Brown's Falls," on Cambridge river, in the west part of the town; height of the falls, fifty feet, in one hundred and ninety-five feet of running distance; saw mills upon it.

Both powers operate about nine months in the year. With better machinery and improvement of the reservoirs, which can be very cheaply effected, they can work all the year. Owned by Miller, Tuttle & Co., N. Y.

First quality of granite; land about the falls convenient for building purposes; enormous quantities of lumber in the region; improvement of the power, though only partial, has added much to the prosperity of the town.

Market, Bethel, and thence to Portland.

Grant Isle Plantation—Aroostook County.

[See Appendix.]

Gray—Cumberland County.

Digested from Selectmen's Returns.

EIGHT POWERS.

Four of the above are situated on Collyer stream, the outlet of Dry pond, and a tributary of Royal's river.

First, "Dry Mills," saw mill, grist mill, shingle and stave mill, which run two-thirds of the year; fall six or eight feet.

Second, "Webster's Mills," at North Gray, a saw mill, grist mill, shingle mill, and a sash and door mill, run all the year.

Third, "Mayall's Mills," erected many years ago, of brick, for the manufacture of woolen cloths, one of which is now occupied by Olfene & Thurlow, in the manufacture of ladies' cloths, the other is at present unoccupied. Water the year round; height of fall eleven feet. An estimate of power was made at this point some forty years ago, and said to be forty horse. The proprietors of these mills are unable, or unwilling, to give an estimate of the power's capability of work. The wheel used at Mayall's mills is the centre-vent.

Fourth, "Weymouth's Falls," the best power in town, a fall of thirty feet can easily be made.

Fifth, still further down, toward Royal's river, is a power where mills were erected many years ago, known as "Morse's Mills," but long since gone to decay. It is thought, by persons familiar with such matters, that the capacity of Collyer's branch can be largely increased, at a small expense, by artificial means.

Sixth, on the great Sucker brook, so called, a mill of considerable consequence used mostly for sawing staves, which are manufactured into shooks for the Portland market; runs most of the year.

Seventh, a mill at West Gray, situate on a tributary of Pleasant river, recently built, has an up-and-down saw, circular saw, planer, &c., does considerable business; runs most of the year, and derives its power from artificial means, back flowage, &c.

Eighth, many years ago, some twenty-five or thirty, there was a saw and grist mill, called the "Ramsdell Mill," situated in the southwest part of the town, on Meadow brook. This privilege is now unoccupied, the mills having been nearly destroyed, years ago, by a freshet.

Land favorable for location of mills and shops; plenty of building material, some timber, &c. Think some of the proprietors would be disposed to do something towards a proper survey of their premises.

Market, Portland, by post road, generally. The nearest point of Railroad is at Pownal, five miles from the village.

GREENE—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

[See also "Greene and Turner."]

FOUR POWERS.

First, on Sabbattus stream, in the easterly part of the town, fifteen feet fall from top of dam to vent of wheels; two-thirds of the fall is secured by the dam.

Second, on Meadow brook, in the southwestly part of the town, saw mill and shingle mill; operate fall and spring.

Third and Fourth, on the outlet stream of Allen's pond, in the northwesterly part of the town. Neither of them is employed now, but they are more valuable than either of the others. There were, formerly, a grist mill, shingle mill and carding machine upon them. Water holds out the year round; fall twenty and twenty-five feet: excellent chance for dams. Estimated capacity of the Sabattus stream power, 50,000 bushels. Rose and Blake wheels used; will do the work of the old Tub and Flutter wheels with one-third, or one-fourth of the water. Improvements on the Sabbattus power, saw mills and a grist mill; former operate four months, latter all the year. No damage from freshets; annual production $7,000.

Market, Lewiston and Portland, by rail.

GREENE AND TURNER—ANDROSCOGGIN COUNTY.

Statement of M. T. Ludden, Esq., of Turner.

[See also "Greene;" and "Turner."]

ONE POWER.

"Turner-Centre Falls," at Turner-Centre bridge, on the Andro-

scoggin, ten miles above Lewiston; twelve feet fall; excellent opportunity for canals and dam; hard bottom and banks; abundant stone; no improvement.

GREENBUSH—PENOBSCOT COUNTY.

[See Appendix.]

GREENFIELD—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

"Olemon Mills," on Olemon stream, near its mouth, in the northwest corner of the town. Height of fall twelve feet; made by a dam which ponds the water back about five miles.

Power operates two saws, a grist mill, shingle, clapboard and lath machine, all the summer, and with an additional foot to the dam will drive them all the year. The property was bought by Howard & Son, its present proprietors, about a year ago, and they have expended several thousand dollars since the purchase, and intend improving the power to its full capacity.

No lakes near. No injury from freshets; granite good for building; lay of the land good. "The use of the power has, thus far, been an injury to the town; are in hopes now it will be a benefit." Until last year the annual product of the mills was only about $40; and the greater part of last year the mills were undergoing repairs.

Market, Bangor, by Penobscot river; E. & N. A. R. R., will pass within forty rods of the mill.

The statement implies that there are other privileges in the town, but speaks of this as the only one improved.

GUILFORD—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Guilford Village Falls," on the Piscataquis river; fall fourteen feet; mills run all the year, except in an extremely dry season. A saw mill, two shingle mills, two clapboard mills, one lath machine, one grist mill, two carriage shops, a blacksmith's shop, and one woolen factory with two sets of machinery, all in full operation.

Saw mill will cut 600,000 per year; shingle mills 4,000,000;

clapboard mills 1,500,000 clapboards; lath machine, 1,000,000 laths; grist mill will grind 30,000 bushels of grain. A large amount of carriage work, planing, and smith work done by water.

Village water power owned by the Guilford Manufacturing Company; woolen factory by Hobart & Young.

Second, at the outlet of Davis pond; fall eleven feet. A saw mill, two shingle mills, and a clapboard machine upon it. Saw mill will cut 500,000 feet of lumber; shingle mills 3,000,000 shingles; clapboard machine 400,000 clapboards. Stream fed by three ponds; power good ten months of the year, and by the erection of a higher dam at the outlet of the pond, could be made available all the year, and at a trifling expense.

Third, on Salmon stream, the outlet of Salmon pond, two shingle mills, cutting about 200,000 shingles yearly; works about eight months.

Fourth, falls on the Piscataquis river, about two miles west of Dover village, a fall of twenty feet in thirty rods, an admirable site for a cotton or woolen factory. This power is wholly unimproved.

The great number and size of the ponds connected with Piscataquis river, tend to give it an unusual constancy of flow, and upon improvement would make it second to none as a manufacturing stream.

Freshets on the Piscataquis, quite heavy, twenty times the natural flow passing in a large one. The banks of the stream are high so that little, or no damage is done. Rise of the water about ten feet.

Rock, limestone and slate; lay of the land excellent at Guilford village. The improvement of the power has greatly increased the wealth of the town; the village contains one-third of the whole taxable property of the town, and it is nearly all the result of the utilization of the power.

Value of annual products of the water-power alone, $300,000.

Market, Bangor, 40 miles, by road. "We shall have a railroad within twelve miles next year, it now being under contract from Newport to Dexter."

HALLOWELL—KENNEBEC COUNTY.

Digested from the Municipal Returns.

NINE POWERS.

All the above are situated on Vaughan stream, and are known as

the "Vaughan Stream Falls." The total descent is 188 feet in about a third of a mile. No estimate of the power has ever been made with any degree of accuracy. On one of the falls, upon which there is an overshot wheel twenty feet in diameter, and a grist mill with three runs of stones, grinding can be done eleven months of the year. Three only of the privileges are improved, using about 55 feet of the 188. Overshot and breast wheels employed, and no others. The power is owned by Wm. Stickney and Simon Page. The stream is fed chiefly by springs and surface drainage, and is therefore variable in its volume. Artificial reservoirs of almost any desired magnitude could be constructed, and a vast amount of water kept in reserve.

Rock, granite, and suitable for building purposes, in some respects the best variety quarried in this country if not the world.

Some twenty-five hands are employed in the mills the year through.

Market, Portland by rail, Boston by steamboats, four times a week; vessels drawing twelve feet can come to within 100 rods of the stream.

Hamlin Plantation—Aroostook County.

Digested from Assessors' Returns.

FOUR POWERS.

First, "Hammond Privilege," on Hammond brook, about two miles from the river St. John. No mill upon it; large quantities of spruce lumber in the basin of the stream.

Second, a fall on Duboy brook, about forty feet perpendicular descent; situated three miles from the river St. John. A large amount of machiney might be kept in motion throughout the year by means of an overshot wheel twenty-eight feet in diameter.

The stream is fed by a small pond. Another small lake in the vicinity which now discharges its waters into Black brook, and thence into the Aroostook river, might at a small expense be connected with the Duboy brook. The Duboy brook privilege probably belongs to the State.

Third, a small power below the above, near the river St. John.

Fourth, a power on Stony brook, an active stream, which would keep considerable power in motion by means of an overshot wheel.

HAMLIN'S-GRANT PLANTATION—OXFORD COUNTY.

Statement of the Assessors.

There are no streams of any considerable size in Hamlin's-Grant Plantation, and none whatever suitable for milling purposes.

HAMPDEN—PENOBSCOT COUNTY.

[See Appendix.]

HANCOCK—HANCOCK COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Graves' Privilege," on Skilling's river, about a hundred feet from tide water.

Second, "Joy's Privilege," on Skilling's river, one-third of a mile from tide water.

Third, "McFarland's Privilege," on Skilling's river, one-half mile from tide. From McFarland's privilege to salt water is a continuous fall of about ten feet in the hundred.

No estimate of the power by measurement has ever been made, but it is judged equal to twenty horse the year round. No use of the power at all is made. There were formerly a grist mill, saw mill and shingle mill upon the stream, but they all went to decay, and the dams were finally swept away by freshets.

The stream is connnected with one small pond. An artificial reservoir three miles long and one mile wide could be constructed. The stream is comparatively constant at all seasons.

The power being located upon tide, is favorably situated as regards accessibility.

Rock, coarse, suitable only for rough work.

HANOVER—OXFORD COUNTY.

Digested from Selectmen's Returns.

NUMEROUS POWERS.

All situated on the outlet stream of Howard's pond, which falls *three hundred and sixty-five feet* in its course of one and a half miles to the Androscoggin.

About one-fourth of the power is improved. There is but one

dam, at the outlet of the pond. Wheels, overshot. The mills work all the year: annual products, $5,400.

The pond is three-fourths of a mile long and half a mile wide; its capacity could be doubled at an expense of $500. The mills on the stream now constitute about one-fourth of the valuation of the town. Freshets harmless.

Mills are within seven and a half miles of the Grand Trunk Railway. Market for the products of the mills is now at the mills.

HARMONY—SOMERSET COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Harmony Village," on Higgins' stream; saws 500,000 of boards and 150,000 shingles, and runs a machine shop. Part of the mills operate all the year. Power only partially used.

Second, below the village, on Higgins' stream; carding and cloth-dressing machine.

Third, at Main Stream village, on Sebasticook Main Stream; saws 500,000 feet of boards, 1,000,000 shingles, and runs a good grist mill. Operates all the year.

Fourth, on "Main Stream Falls," below the village; unimproved.

A bog six miles by three-fourths mile, is flowed by a dam, in connection with Higgins' stream. Stream can be made to yield abundant water all the year; Main stream also, by proper dams.

Good building stone. Market, Skowhegan, Newport, by road.

HARPSWELL—CUMBERLAND COUNTY.

[See Appendix.]

HARRINGTON—WASHINGTON COUNTY.

Selectmen's Returns.

TWO POWERS.

First, a small power on Mill river; fall about ten feet; stream very rapid; water only spring and fall.

Second, a power on Great Marsh stream; fall about ——— feet to the mile; will carry one saw the year round.

These powers are improved by saw, lath, and shingle mills.

Range from low to high water, about six feet. Rock, limestone, "which should be tested."

HARRISON—CUMBERLAND COUNTY.

Digested from the Selectmen's Returns.

FOUR POWERS.

First, at the outlet of Anonymous pond, at Harrison village, fall ten or twelve feet; "Tolman & Co.'s wire-factory"; product $50,000 per annum.

Second, on Bear river, at the village, fall twenty-one feet. The Harrison Water Power Company have just commenced building a dam for a factory.

Third, on the same river, just below, fall ten feet; unoccupied.

Fourth, at Bolster's mills, on Crooked river, fall eight feet, dam ponds the water backs sixty rods; saw mill, grist mill, shingle machine; wheels overshot, centre-vent, and Leffle's American double turbine.

Bear river is the outlet of Bear pond; Crooked river is connected with numerous ponds above; no damage by freshets; abundant supply of water except in severe drouths. Rock; granite abundant and of good quality; lay of the land very good.

The improvement of the power has increased the wealth of the town and given employment to a considerable number of workmen.

Market, Portland, by canal, and road.

HARTFORD—OXFORD COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

All are situated on Bungermuck stream; their height of fall is respectively nine feet, fifteen feet, and twenty feet. They are not improved.

HARTLAND—SOMERSET COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Upper Sebasticook Falls," in the village of Hartland, on the west branch of the Sebasticook river, about one mile from the

outlet of Moose pond; said pond contains seven or eight square miles; height of falls thirty feet in seventy-five rods.

Second and Third, smaller powers about three miles from the village.

Improvements upon the above powers, three dams, saw mill, shingle mill, grist mill, carding machine, woollen factory, carriage and blacksmith shop; powers operate all the year; Tuttle wheel used.

Moose pond is a great reservoir, and its capacity can be still further increased by dams. Artificial reservoirs, of very great extent can be constructed; freshets perfectly harmless; range of water about five feet; water abundant at all seasons.

Rocks, granite; one-half basin forests; lay of the land good. Improvement of the power has benefited the town.

Market, Bangor, by road to Pittsfield, seven miles, and thence by railroad.

Hebron—Oxford County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

"Matthews Pond Falls," height 140 to 180 feet in 100 rods. Power not all improved; only one mill upon it. The power fully employed would saw 800,000 of lumber. Could be worked all the year with a suitable dam.

Machinery now used of the poorest construction; old-fashioned wooden wheel. Area of the two connected ponds, 470 acres. Their capacity could be doubled by a dam and at a trifling expense. Rocks, coarse granite, suitable for building dams. Lay of the land, convenient.

Market, West Minot and Mechanic Falls.

Hermon—Penobscot County.

Selectmen's Returns.

TWO POWERS.

First, "Shaw & Harding Mill," on Cold brook. Fall about eight feet. Dam and mill upon it; mill out of repair; never works over four months in the year. Situated close by the Maine Central Railroad, and three miles from the business part of Bangor.

Second, on the Wheeler stream, known as "King's Mill-Dam"; five and a half miles from Bangor. About equal to the first mentioned in capacity. No other improvement than the dam.

Hinkley and Township No. XXVII—Washington County.

From the Returns of Calais, and Anson's Survey.

SEVERAL POWERS.

The outlet stream of Grand lake, on the west branch of the St. Croix, or the "Grand Lake Stream," has a fall of about eighty feet in its descent to Big lake. At its head the St. Croix Log Driving Company have this season (1867) built a dam to hold about eight feet head, which flows the lake about twelve miles.

Doubtless several valuable water-powers are situated on this stream. The various lakes above and connected with Grand lake, are dammed, to retain water for log-driving purposes.

Hiram—Oxford County.

Digested from the Report of the Survey of Cyrus Ingalls, Esq., Procured and Endorsed by the Selectmen of Hiram.

[See also "Baldwin and Hiram."]

FIVE POWERS.

All the above are situated upon Hancock brook, which is a chain of eight or more considerable lakes and ponds.

First, one hundred rods from Hiram bridge, Allen's mill and privilege; stave machine, clapboard and shingle machines and other circular saws, with head and fall of eight feet.

Second, twenty-five rods further up, the mills of Clark & Co.; a saw mill, shingle machine, stave machine, and a grist mill with several runs of stones; a head and fall of sixteen feet.

Third, three-quarters of a mile further up, Rankin's saw mill and privilege, with a head and fall of ten feet.

Fourth, two miles further up, the "Barker Dam," at the outlet of Barker pond, which has been built over fifty years, with head and fall of over eight feet, and at an altitude of two hundred and seventy-five feet above the Saco river at Hiram Bridge. Pond is about one mile and a half long, and contains over five hundred acres. From this pond, northeasterly, one mile, is the Pickerel pond, so called, which contains about twenty-five acres.

Fifth, from this pond up, three-fourths of a mile, the foot of the "Great Hancock Pond" is reached, where there is a stone dam fifty feet long, eight feet high. This pond contains about five hundred acres. From the upper end of this pond, four rods further, the foot of the "Upper Hancock Pond" is reached, which contains about one hundred acres. Three-fourths of a mile east of this pond, are four other ponds, some of which are of considerable size, and flow into the Great Hancock pond.

In 1811 the foregoing ponds and streams were canalled by building twenty-two dams and slips from Hiram bridge to Barton pond. Over hundred millions of pine lumber have been driven out of this canal into the Saco river. Said town contains large quantities of oak and pine, besides a great amount of hard wood lumber suitable for manufacturing purposes.

Hodgdon—Aroostook County.

Digested from Selectmen's Returns.

THREE POWERS.

All good privileges, situated on the Meduxnakeag river, and all in a running distance of one mile; the two upper being fifty rods apart.

The two upper works are known as "Jewett & Dunell's Mills"; the lower, as "Hutchinson's Mills."

The upper privilege has a fall of eleven feet; the second, a fall of six feet; the lower a fall of nine feet. There are no natural ponds in the vicinity. The upper dam ponds back the water three miles; the lower about a mile.

No estimate of the power; but the opinion expressed that the upper falls, economically applied, would carry a considerable amount of machinery nearly all the year. The power poorly applied at present.

On the upper dam, a grist mill with three runs of stones; a saw mill, with a four foot circular saw, clapboard and sash saw, carding and fulling mill.

On the second dam, a shingle mill.

On the lower dam, a saw mill with one up-and-down saw, a clapboard, shingle and lath saw, and planing machine.

The grist mill works all the year; the saw mill two-thirds of the year; the lower mill nearly all the year; the shingle machine was erected recently.

The machinery is not economical of power; the grist mill has a centre-vent wooden wheel; all the others are "reactors."

An artificial reservoir, five miles by four, could be constructed at small expense above the upper dam, and the land it would flow is nearly useless; freshets harmless; total range from lowest to highest water, about eight feet.

"All we need is energetic men to work our power to make a thriving and growing place."

Holden—Penobscot County.

SIX POWERS.

First, on Dead river, a shingle mill.

Second, on Dead river, a saw mill and tannery.

Third, on Dead river, saw mill and shingle mill.

Fourth, shingle mill.

Fifth, on Meadow brook, a saw mill.

Sixth, on Meadow brook, a saw mill.

The Dead river flows from Fitz pond, four miles long and half a mile broad. The power on this stream might operate all the year. The Meadow brook powers work about three months in the year.

Annual product, about $10,000. Market, Bangor, seven miles distant.

Hope—Knox County.

Digested from Selectmen's Returns.

TEN POWERS, AND MORE.

Four are situated at the foot of the so-called Hobbs and Fish ponds, all within three-fourths of a mile; average head of water upon each privilege about ten feet.

First, on the dam, at the foot of the ponds, a saw mill for long lumber, a grist mill, and saw mill, and saw mill where are manufactured staves and headings for lime casks.

Second, on the dam below is a saw mill for long lumber. Water sufficient to do a large business ten months in the year.

Third, on the next dam, a saw mill for staves and headings, also a threshing machine, grist mill and machine shop, all in the same building, where is done quite an extensive business; water the year round.

Fourth, on the next dam is a saw-mill for staves, heading and shingles; also a shop for the manufacture of doors, sash and blinds. Business brisk the year round.

Fifth and Sixth, there are two more privileges below that are unoccupied.

The lay of the land around the mills is very good for building; great abundance of rocks for all purposes, and quite heavily wooded. The mills are located in the south part of the town, at the foot of the above named ponds, which are about four miles long and from one-fourth to one mile wide.

Seventh, is located near the centre of the town, at the foot of the Mansfield pond; saw mill for staves and heading; does a good business eight months in the year; head of water eleven feet; surrounded by a great amount of lumber.

Eighth and Ninth; there are, also, other privileges on the same stream below, unoccupied.

Tenth, small mill for cutting staves and heading, saws about three months in the year; other privileges on the same stream below superior to this, though unoccupied. These privileges are in the northeast part of the town at the upper end of the Hobbs and Fish ponds. All of the mills are located within from ten to twelve miles of Rockland, and from seven to nine miles of Camden; both very good markets. The soil generally good for producing crops; rather rocky and hilly.

Houlton—Aroostook County.

Digested from Selectmen's Returns.

SEVEN POWERS.

These are situated upon the south branch of the Meduxnakeag river and its tributaries, and are known as the "Cary," the "Page and Madigan," the "Ham," "Logan," "Mansur," "Cressey" and "Houlton" water-powers. The Cary privilege has a fall of about thirty feet; the others of about twelve feet.

No accurate measurement of the power has ever been made, "but it is sufficient for the largest manufactories; water abundant all the year." The power is improved in two grist mills, four saw mills, two carding mills, two cabinet shops, one tannery and a machine shop and foundry. Numerous lakes and large streams; the lakes can be converted into large reservoirs at small expense.

Freshets never destructive; sites for building very excellent; proprietors would aid in a thorough survey. Rock suitable for building close at hand; three-fourths of the town cleared.

The improvement of the power has had a marked effect upon the wealth and population of the town, and if adequately carried out would double both in two years. "There is a most excellent opportunity for factories, especially woollen factories. We raise the best of wool, in great quantities, which now goes to Boston and then comes back to us in cloth. Other manufactories are greatly needed and we can offer the highest inducements." The soil in this region is a deep rich loam, underlaid by clay.

Market, Boston and Bangor; the former by the St. Andrews R. R. and steamboat. "Our great trouble, in years past, has been means of access to the rest of the world. The railroad above mentioned has begun to give us relief. The opportunities and necessities for manufacturing here are very unusual."

HOWLAND—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

[See also "Enfield and Howland."]

TWO POWERS.

First, the "Howland Falls," at the mouth of Piscataquis river. Height twenty feet, produced by a dam of that height, which ponds the water back one mile; the power is that of the whole Piscataquis river. Four saw mills already built; room and power for six more; machinery badly out of order. Owned by N. J. Miller, of Portland, and Albert Emerson, of Bangor.

Second, a power on Seboois river; unimproved.

Freshets harmless if reasonable precautions be taken; an old mill, much decayed, carried away years ago; no damage from ice.

The Piscataquis power is about going into the hands of parties who contemplate great improvements. "We hope to send you soon a more satisfactory account." "We are confident that our power, (including that on the Penobscot), suitably improved, will make this one of the first manufacturing towns in the country."

HUDSON—PENOBSCOT COUNTY.

[See Appendix.]

Industry—Franklin County.

Digested from Selectmen's Statement.

TWO POWERS.

First, at the outlet of Clear-Water pond, known as "Allen's Mills"; thirty-three feet fall in fifty-five rods. Eight hundred inches of water, under a twelve foot head, operates twelve hours per day through the year; machinery is not of the best construction; there is a grist mill with three runs of stones, a saw mill, shingle, clapboard and lath machines, and shovel-handle factory; also a tannery, with water privilege sufficient to use one hundred cords of bark per year; the dam, at the foot of pond, may be raised three feet; any quantity of rocks for building purposes; the pond contains from 1,500 to 2,000 acres; water deep and clear; absolute immunity from danger by freshets.

Six miles from Farmington depot, good roads; 15,000 doz. shovel handles manufactured last year, and hauled to depot for two cents per doz.

Second, "West's Mills," on a small stream at or near the east line of the town; thirty feet fall in fifty feet running distance; a saw mill and shingle machine; run about two months per year; a grist mill, three runs of stones, operates about ten months per year. Two stores and a small village at this point. Ten miles from Farmington depot.

Islesboro'—Waldo County.

Digested from the Statement of the Selectmen.

TWO POWERS.

First, at the outlet of a pond, the area of which is twelve acres, and which may be increased to twice that size by means of a cheap dam; an eight foot greater head than the present may be had and water sufficient to carry a grist mill two-thirds of the year. This pond lies one-third of a mile from the sea shore.

Second, on the same stream, just at its mouth; with another dam, the water may be used again to as good advantage as at the pond.

From the pond to the sea line there is a total fall of sixty feet. There is no use made of the privilege. The outcropping and underlying rocks are shale.

JACKSON—WALDO COUNTY.

Digested from the Selectmen's Returns.

FIVE POWERS.

First, on Hadly brook, saw mill; fall fourteen feet.

Second, Third, Fourth and Fifth, on Marsh stream; total fall of the four combined, sixty to seventy feet in three-fourths of a mile; two saw mills, one grist mill, and a shingle mill; operate from one-third to one-half of the year. Power only partially improved. So far as improved, has built a village of twenty houses.

Rose wheel used. No lakes or ponds. Artificial reservoirs feasible to some extent. Basin one-third wooded. Mills have cut this year 600,000 feet hemlock boards, 1,000,000 shingles, 25,000 feet vessel plank. Total value, $7,800.

Market, Belfast, by road; "hope soon to have a railroad."

JAY—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, "Stubbs' Mill" on a small stream in the eastern part of the town; a saw mill in course of erection.

Second, "Looks' Mill," in the north part of the town, on a small stream a saw mill; that does good business sawing lumber spring and fall.

Third, "Jay Bridge Falls," on the Androscoggin river, about three miles above Livermore falls. The total height of the falls at this point is estimated at twelve feet, attained in a running distance of six rods. A good modern dam, built this season; only a saw mill upon it; privilege owned by Hon. John Lynch, of Portland.

Fourth, about one mile below Jay Bridge, "French's Falls" on the Androscoggin. Total height of these falls ten feet; no part of the power is improved; privilege owned by Maj. Stillman Noyes, of Jay, on the east side of the river, on the west by E. Treat, of East Livermore.

Fifth, below the above named falls, the "Otis Falls" on the Androscoggin, situated about about one-half mile above Livermore falls. The total height of said falls is fourteen feet, within a running distance of six rods; no part of this power is improved, either by mills or dam. It is owned by Capt. Ezekiel Treat, of Livermore falls, and Dr. Kilburn, of Lewiston.

Granite is abundant in the vicinity of all the before mentioned falls; a large quarry within one mile of Jay Bridge falls, with descending ground the whole distance. Lay of the land upon all the powers, all that could be desired for convenience. Proprietors would probably aid in a survey.

Market, Portland and Boston, by rail.

If the low summer run at Jay bridge be assumed to be twenty per cent. less than at Lewiston, or 75,200 cubic feet per minute, the resultant power for the whole series of falls would be 3,744 net horse-powers, or 204,640 spindles.

JEFFERSON—LINCOLN COUNTY.

Digested from the Statement of the Selectmen.

TEN POWERS.

First, a privilege on Dyer's river, a single-saw and shingle machine. The fall from the top of the bulkhead to the bottom of the wheel is eleven feet eight inches. Improved machinery put in last fall. Cuts out what would be equal to 300,000 of lumber. With a good dam (easy to construct), mill could be run eight months in the year. Good chance on one side for a grist mill, or other machinery. The forest adjacent consists of pine, about 3,000,000 or 4,000,000, white and red oak, maple, birch, &c.

Second, about two miles further up; a grist mill, one run of stones, a carding and fulling mill, and on the other side a stave and shingle mill; fall about ten feet; water to grind most of the time.

Third, one-half a mile further up, an old saw mill about rotted down; a good privilege; fall about nine feet. It is at the outlet of Dyer's pond. The pond is three by one-half miles, with another pond tributary to it, one by one-half miles.

Fourth and Fifth; the brook connecting the ponds has two falls,—one, seven feet, the other, ten feet.

Sixth and Seventh, in the north part of the town on the Weeks stream; two saw mills; fall about eight feet. The two could saw about 500,000 a year.

Eighth, on the Jackson stream; mills consist of saw and grist mill; saw spring and fall; grist mill runs most of the time.

Ninth, in the northwest part of the town; stave and shingle mill.

Tenth, stave and shingle mill.

JONESBOROUGH—WASHINGTON COUNTY.

[See Appendix.]

JONESPORT—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

Situated on Indian river; fall ten feet; power only partially improved, in dams and mills; mills operate one-half of the time. Turbine wheel used. No lakes or ponds. No artificial reservoirs feasible.

Underlying rock, syenite. Little forest; lumber all gone. Market, all points, by sea.

KENDUSKEAG—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Kenduskeag Village Power"; "Garland's Mills" on the east side, "Hodsdon's Mills" on the west side of the stream.

"Garland's Mills"; production, 1,500,000 feet board measure, 4,000,000 shingles, 40,000 bushels grain. "Hodsdon's Mills"; production, 1,000,000 shingles, 300,000 staves, 100,000 heading boards, 12,000 lbs. wool, carded.

Second, "Higgins' Mill," one and a quarter miles above the foregoing power; production, 700,000 board measure, 1,500,000 shingles.

Third, "Young's Mills," on Bog brook; production, 800,000 shingles.

Fourth, "Piper's Mills," on Bog brook; production, 200,000 board measure.

Grist mills work all the year; the others might, but do not probably more than half the year. Machinery of the best construction. Tuttle's centre-vent wheel used chiefly.

Range from low to high water about seven feet. "For the last five years all the mills on Kenduskeag river could have run all the year round. The volume of the stream seems to have increased."

Improvement of the power has had some influence upon the wealth of the town, but far less than would result from the employment of more capital and enterprise.

Market, Bangor, by turnpike, ten miles distant.

KENNEBUNK—YORK COUNTY.

Digested from Selectmen's Returns.

SEVEN POWERS.

First, Second and Third, "Mousam Village falls," at the head of tide on Mousam river, two and a half miles from the sea. Divided into three pitches; total height of fall forty feet The lower, to the foot of which the tide flows, has no dam. The second has a sash and blind factory, machine shop, saw mill, shingle machine, with circular saws. The upper has seventeen feet fall; two cotton mills and a grist mill.

Fourth, two miles above, on the same stream, "Lord's Cotton Mills," eight feet fall.

Fifth, one-half mile above, "Davis' Lumber Mill," nine to ten feet fall.

Sixth, one mile up, "Varney's Falls"; twelve feet fall.

Seventh, one mile further up, "Great Falls," fall forty-five feet, with a natural stone dam and some "twelve hundred horse-powers; one of the best powers in the State;" entirely idle; owned by Dana, Fitch & Thompson.

From Great falls to Mousam Village falls, is 150 feet descent, the distance five miles. Stream very constant, being fed by many ponds, amongst them the Great Mousam pond, seven miles long; power could be increased one-fourth by the improvement of the ponds for reservoirs; total range of water from low to high, 3·5 feet. The falls are bounded all about with ledge; one-fourth of the basin covered with woods.

Market, Boston and Portland, by railroad, also all parts by sea.

KENNEBUNKPORT—YORK COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS.

First, John Smith's saw mill; height of falls about ten feet; saws quite an amount of lumber.

Second, Jacob Curtis' saw mill and shingle mill; falls about ten feet high; both in middle part of town, on small streams.

Third, Moses Nason's saw mill and carding mill, on Kennebunk river.

Fourth, Edwin Hutchins' shingle and clapboard mill; saws 50,000 per year; on a small stream.

Fifth, Goff's mills, Andrew Merrill's shingle, saw and grist mill.

Sixth, Perkins' mill; falls some twelve feet; near the sea.

Seventh, Goodwin's mill; saw mill; small stream; does but little.

Eighth, tide mill, James D. Perkins, in village; grist mill, valuable.

Some of the above named do not have water only a small part of the year, as the streams are dry in dry seasons. Some do but little business.

KINGSBURY—PISCATAQUIS COUNTY.

[See Appendix.]

KINGFIELD—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

TWENTY-FOUR POWERS.

Twenty of the above are situated on the Carrabasset river, one on Indian stream, one on Dutton stream, one on Tufts stream, and one on Rapid stream.

The fall on the Carrabasset is stated to be twelve feet in fifty rods. This statement is understood to apply to the single power at Kingfield village. No information given about the height of the other falls, or of the sum total of available power, more than is implied in the general averment that "we have the largest power in any town in the State, so far inland, and not situated on any one of the largest three rivers."

On Carrabasset falls, (at the village), four up-and-down saws might be driven the year through. Only a part of the power has ever been improved; what mills there were were lately burned. The Carrabasset is connected with small lakes and ponds; it drains a large area of country; total range from lowest to highest water, twelve feet.

A large proportion of the basin of the stream still wooded. The improvement of the power has added decidedly to the wealth and population of the town; the loss of the mills by fire, is severely felt. Total yearly products, $8,000.

Market, Farmington, by road.

KITTERY—YORK COUNTY.

[See Appendix.]

LAGRANGE—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First and Second, on Dead stream; Third on Birch stream; Fourth, "Slate Falls," upon Hemlock stream. The fall at each privilege averages about eight feet in three rods.

There are two mills on Dead stream, valuable powers; operate about three-fourths of the year; capacity not known to the reporter. No mill on Hemlock stream. Formerly was a mill on Birch stream, now not in use.

Two small ponds connected with Birch stream. They can be improved for reservoirs. The basin of Hemlock stream heavily wooded.

Market, Bangor, by road. "A railroad is to be built."

LEBANON—YORK COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

All are situated on the Salmon Falls river. The upper, or most northern, is directly opposite the Three Ponds village in Milton, and is known as the "Three Ponds Privilege"; about two miles below is another, near the mill of Skates & Lyman, and known as the "Skates & Lyman Privilege." Below this, directly opposite East Rochester, is the "East Rochester Privilege."

Upon the lower fall, on the Rochester side, are two woollen mills, one of brick, the other wooden; each four stories high, one hundred and fifty feet in length, and fifty-four feet wide, in which are eleven sets of woollen machinery. These mills run the whole year and have a full supply of water. The capital is one hundred thousand dollars, and half a million dollars worth of goods are manufactured per year. The Cocheco Manufacturing Company own these mills.

The total height of the falls, on each of these powers, is twenty feet to about nine hundred feet in running distance. No estimate of the power has been made to our knowledge. The power is not all improved. There are a saw mill, grist mill, &c., on the upper, and

nothing on the two lower, on the Lebanon side. We consider each of the powers capable of carrying as much machinery as is now used at East Rochester; there are two dams now constructed. The mills work all the year. The machinery is of the best construction. The upper dam is owned by the Great Falls Manufacturing Company; the middle by Skates & Lyman, and the lower by the Cocheco Manufacturing Company.

The stream is connected with lakes and ponds, with East pond in Wakefield, N. H., and several large ponds in Maine. The Acton pond is commanded as a reservoir to the depth of twenty-five feet.

The rocks about the falls are not suitable for building purposes; the land would be convenient to locate mills upon. The forests about the stream have been considerably cut off. The building of mills on the New Hampshire side, has increased the population in our town and made the real estate more valuable. The land and farms, in the vicinity of the power, have already increased one-half in value. Our Market is at Great Falls, N. H., and East Rochester.

LEE—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

All are situated on the west branch of the Mattakeunk river. They are called the "Mattakeunk Falls." Total descent, one hundred feet in two and a half miles.

Only a small part of the power is improved, in dams and mills; part of the mills operate all the year, part one-half, part one-fourth. Stream fed by Mattakeunk lake, which covers 1,000 acres. Its capacity can be readily increased. No rocks. One-half of the basin of the stream covered with woods.

Market, Bangor, by road.

LEEDS—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

[See also "Leeds and Turner."]

EIGHT POWERS.

First, on Cushman's Mill stream; grist mills; in former years used also for saw mills.

Second, fifty rods below; shingle machine, etc.

Third, on Coffin's Mill stream; saw and shingle mills.

Fourth, on Bridgham stream, unimportant; formerly grist mill and carding mill. A considerable pond connected.

Fifth, on Mason brook, not used, formerly a grist mill.

Sixth, on a small stream in the north part of the town; a shingle mill.

Seventh, not used, in northwest part of the town; operates a shingle mill.

Eighth, a small but good power in southwest part of the town; formerly a saw mill. Not used.

The Androscoggin pond, on the confines of Leeds, is connected with the Androscoggin river by Dead stream, and the pond lying upon the same level as the river, the waters flow in and out according to the stage of the river.

The water-powers, though not large, are susceptible of much more use than is now made of them.

Market, Lewiston, by road or rail.

Leeds and Turner—Androscoggin County.

From the Returns of Leeds and Turner, and of M. T. Ludden, Esq.

[See also "Leeds"; and "Turner."]

ONE POWER.

First, the "North Turner Falls." The Androscoggin river forms the dividing line between Leeds and Turner for about eight miles. At North Turner bridge, sixteen miles above Lewiston, there is a fall of about six feet; *thirteen* feet according to the statement of Mr. Ludden.

The natural force of the water is so great that a saw mill has been run here by its means. There is now no improvement soever. "The privilege is its natural facility, including building materials, sites for mills, etc.; is judged quite equal to that at Lawrence, Mass. This judgment is based upon observations made at the time of the building of the dam and laying foundations at that place." An island in the river at the fall diminishes the required length of dam.

Letter E Plantation—Franklin County.

Digested from the Assessors' Returns.

FIVE POWERS, AND MORE.

There are two sets of falls on the Sandy river. The upper have

a descent of about thirty feet; the lower consist of four successive pitches, which average about twenty feet each. They are capable of carrying a large number of mills, and have good supply of water the greater part of the season. They are located on the road leading from Phillips to Rangely lake. There is any amount of timber in their vicinity, which can be got to the privileges on a down-hill grade; there is also a good market for manufactured lumber.

Other falls are situated on the North branch of the Sandy river, the descent of which is ninety feet.

LEVANT—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

All the above are situated on Black stream, or its tributaries, and are located respectively at Levant village, South Levant, West Levant, and in the westerly part of the town.

First, "Wiggin's Mills," at Levant village, a fall of ten feet in a running distance of one hundred and twenty-five rods. No estimate of this power, by measurement, has ever been made. One saw mill, one shingle mill, and a lath machine, all of which run six months each year, and some parts of the machinery during the whole year, manufacturing from 200,000 to 500,000 long lumber, from 800 000 to 1,000,000 shingles, and 100,000 laths, of an aggregate yearly value of about $7,000.

There are no natural lakes or ponds connected with this power, but by constructing a dam a half mile above the mills, thereby forming an artificial pond several miles in length, the power would be available throughout the year and one of the best in the State. The total range from low to high water, where the stream is unobstructed, would not exceed seven feet. The stone about the falls is a coarse slate, easily rifted, valuable no doubt for building purposes, and is generally used in the vicinity in the construction of dams, cellar walls, &c. The land slopes gently for ten rods to the brink of the stream, and is quite favorable to the erection of mills, workshops, &c.; about one-half the basin of Black stream is covered with forest.

Second, the power at South Levant, known as "Weston's Mills," has a fall of about fifteen feet in a running distance of two hundred

rods. One circular saw mill and one shingle mill; a grist mill and clapboard mill, all of which run about half the year, employing nearly all the power, excepting at times of high water, and manufacture about $7,500. Remarks on power at Wiggin's mills, relating to ponds, range of water, soil, lay of land, and markets, apply to this power.

Third, a small power occupied by a shingle mill, one mile from South Levant, on what is known as the "Horseback Road"; fall of about eight feet in a running distance of one hundred rods, and capable of manufacturing yearly about 500,000 shingles, but at present is not employed to any extent. Perhaps 50,000 shingles may have been manufactured during the past year.

Fourth, the fall at West Levant, known as "White's Mill," has a fall of twenty feet in a running distance of one half mile; is occupied by a saw and shingle mill, which manufactured, the past year, about 300,000 long lumber and 300,000 shingles, and is capable of doing much more. This mill can run from four to five months in a year, and the past year has manufactured lumber to the value of about $4,000.

Fifth, the power in the west part of Levant, known as "Emerson's Mills," has a fall of twenty-two feet in a running distance of twenty rods, and at present is occupied by a single saw mill—formerly by two saw mills; will operate one mill from three to four months per year. Manufactures 200,000 to 300,000 feet of long lumber, of the value of about $3,400.

The only market for all lumber manufactured in this town is at Bangor, to which point it must be drawn by teams.

Lewiston—Androscoggin County.

Digested from Memoranda Furnished by A. D. Lockwood, Esq.

THREE POWERS.

First, "Lewiston Falls," on the Androscoggin river, twenty miles above its junction with the Kennebec, and forty miles by the river from the ocean.

How Formed.—By a ledge of gneiss and mica schist, crossing the river diagonally, which is so extended as to form the bottom and sides of the stream both above and below the falls, and which pro-

jects above the level of the water in several small rocky islets, that serve as abutments to the dams.

Height.—Of the *natural* fall, thirty-eight feet, which with dams of an average height of about twelve feet, produces an available power of fully fifty feet head. This descent is attained in a horizontal distance of 600 feet.

Volume of Water.—Volume at lowest water, 94,000 cubic feet per minute. Volume now used, 58,000 cubic feet. By the improvement of the Umbagog and other adjacent lakes, the available volume at the lowest summer run could be increased to at least 150,000 cubic feet per minute.

Power.—At the lowest run of water, 6,666 horse-powers, or sufficient to drive cotton mills containing 400,000 spindles. Of this 2,500 horse-powers or 150,000 spindles, remain unappropriated. As above implied, the power can be largely increased by the improvement of one chain of the principal lakes The power is perfectly secure against all possible contingences of ice or floods. The total range from the highest to the lowest water is about eight feet on the dams.

The above calculation is based on 11 hours per day, working time, for 6 days each week, and what is meant is, that there are 372,240,000 cubic feet of water passing this place, which can be held back during nights and Sundays, so as to be all used in the 6 working days of 11 hours each.

Lay of the Land.—Exceedingly favorable for the location of manufacturing establishments, there being two natural levels on the margin of the river, the lower allowing twenty-two feet fall, the upper twenty-eight feet; and there being also abundant room for factories employing the whole power. The levels are sufficiently distant from the river and from each other to afford ample space for the largest establishments, with their yard room, boarding-houses, etc.

The territory removed from the river is favorably disposed for the location of streets and building lots, and for the growth of a large city. Seven acres have been elegantly laid out as a public square.

Incidentals.—Firm foundations for the large mills are easily obtained at trifling cost. Bricks of the best quality are made close at hand. Stone is procurable in unlimited quantities. Lumber is supplied by the country above and adjacent. The surrounding na-

tive population of farmers furnishes the operatives for the greater part.

Accessibility.—Lewiston is connected with the seaboard by two lines of railway, and is within six and a half hours of Boston, one and a half of Portland, and one hour and a quarter of Bath. Cotton can be brought to its warehouses, from Mobile or New Orleans, as cheaply as to Lowell or Lawrence; and transportation of either raw material or manufactured goods can be effected at as little cost, as to or from any other of the large interior manufacturing towns of the country.

Improvements.—Four dams, eight hundred and fifty feet in aggregate length. Guard locks, with seven sluiceways, 9 x 12 feet; main canal 64 feet in average breadth in the clear, and designed for twelve feet depth of water. Cross canal 40 feet broad in the clear, 10 feet of water. The dams and guard locks are constructed of split granite, in the most solid and substantial manner.

Proprietorship.—The power is owned by the Franklin Company. Office at Lewiston; agent, A. D. Lockwood.

Corporations.—The various manufacturing companies now, in occupation of the power, are as follows, viz:

Bates Manufacturing Co., David M. Ayer, Agent. Incorporated 1850. Commenced operations 1852.

Capital stock,	$1,000,000
Mills, Cotton, 2,	40,000 spindles.
Mills, Woollen, 1,	8 sets machinery.
Females employed,	850
Males "	350
Horse-power,	800
Water-wheels,	6 turbines.
Buildings,	Brick.
Goods manufactured,	Cotton and woollen.
Production—Cotton,	5,707,372 yards cloth per year.
	1,417,949 pounds " " "
Woollen,	226,155 yards cloth per year.
	146,912 pounds " " "

Hill Manufacturing Co., Josiah G. Coburn, Agent. Incorporated 1850. Commenced operations 1854.

Capital stock,	$700,000
Mills,	2

Spindles,	51,200
Females employed,	800
Males, "	200
Horse-power,	800
Water-wheels,	4 turbines.
Buildings,	Brick.
Goods manufactured,	Cotton.
Production,	7,037,353 yards cloth per year. 1,753,770 pounds " " "

Androscoggin Mills, Amos D. Lockwood, Agent. Incorporated 1860. Commenced operations 1860.

Capital stock,	$1,000,000
Mills,	2
Spindles,	50,000
Females employed,	788
Males, "	312
Horse-power,	800
Water-wheels,	5 turbines.
Buildings,	Brick.
Goods manufactured,	Cotton.
Production,	6,500,000 yards cloth per year. 1,750,000 pounds " " " 1,800,000 grain bags " " 1,800,000 pounds " " "

Continental Mills, Stephen I. Abbott, Agent. Incorporated 1865. Commenced operations 1866.

Capital stock,	$900,000
Mills,	1
Spindles.	27,360
Females employed,	395
Males, "	175
Horse-power,	440
Water-wheels,	3 turbines.
Buildings,	Brick.
Goods manufactured,	Cotton.
Production,	5,600,000 yards cloth per year. 1,400,000 pounds " " "

Franklin Company, A. D. Lockwood Agent. Incorporated 1854. Commenced operations 1857.

This company owns the water power, canals and the adjoining land around the falls on both sides of the river, also several hundred acres of land in and around the more thickly settled portion of the city. They also own the following property, viz:

Lincoln Mill, J. K. Piper, Agent.

Mills,	1
Spindles,	20,000
Females employed,	285
Males "	143
Wheels,	2 turbines.
Buildings,	Brick.
Goods Manufactured,	Cotton.
Production.	2,800,000 yards cloth per year. 750,000 pounds " " "

Grist Mill Building, occupied by Bradley, & Co., manufacturers of flour and meal.

D. Cowan & Co., manufacturers of woollen goods, also dyeing and bleaching woollen and cotton yarns, employing 27 females, 25 males.

H. H. Dickey, manufacturer of belting and covering rollers, employing 10 men.

Wheels,	3 turbines.

Saw mill, occupied by S. R. Bearce & Co., manufacturers of lumber,

Water wheels,	5

Lewiston Bleachery and Dye Works, occupied by H. W. Farrell.

Capacity for bleaching and dyeing,	8 tons per day.
Females employed,	14
Males,	204
Water wheels,	1 turbine.

Mechanic shops, occupied by O. B. Morse, stair builder; David Scott, manufacturer of weaver's reeds; O. H. Littlefield, doors, sash and blinds; L. W. Gilman, bobbins and spools; Rufus Stevens, machinist.

Water wheels,	2 turbines.

Lewiston Mills, Marshall French, Agent. Incorporated 1853. Commenced operations 1853.

Capital stock,	$500,000
Mills,	2
Spindles,	17,880
Females employed,	460
Males "	211
Horse powers,	450
Water-wheels,	3 turbines
Buildings,	Brick.
Goods manufactured,	Cotton and Jute.
Production—Cotton,	764,619 yards cloth per year. 1,241,776 pounds " " "
Jute used,	1,679,281 pounds per year.
Cotton and jute bags,	1,233,423 per year.

Lewiston Falls Manufacturing Co., John M. Frye, Agent. Incorporated 1834. Commenced operations 1834.

Capital stock,	$60,000
Mills,	2
Sets machinery,	6
Females employed,	45
Males "	40
Horse-power,	100
Water-wheels,	2
Buildings,	Brick and Wood.
Goods manufactured,	Woollen.
Production,	225,000 yards cloth per year. 200,000 pounds " " "

General Statistics and Summary.

Number of manufacturing companies,	15
Capital invested,	$5,000,000
Number of cotton mills,	9
Spindles,	220,000
Water-wheels,	33
Power used for cotton mills, 3,666, " " " other purposes, 500, Power not used, 2,500,	6,666 horse.

Females employed,	3,664
Males "	1,660
Annual production—	
	28,409,344 yards cotton cloth.
	8,313,495 pounds " "
	451,155 yards woollen "
	346,912 " " "
	3,033,423 grain bags.
	1,679,281 pounds jute used.
Population of Lewiston,	13,000
" " Auburn,	8,000
Valuation of Lewiston,	$5,500,000
" " Auburn,	$1,680,000
Number of churches in Lewiston,	7
" " school-houses,	27
" " schools,	38
Expenditures for school purposes, 1866–7,	$53,278.58

In 1850, when operations commenced for the improvement of the power, the population was only about 4,000, and the total valuation $625,596. It is not presumed that the growth of the city has, by considerable, reached the limit due to even the present improvement of the power; but even at its present stage it strikingly illustrates the rapidity with which water-power, when adequately improved, under favorable conditions, accumulates wealth and augments population. If all the available lake surfaces of the Androscoggin were as thoroughly improved as those of the Merrimac now are, the population of the city would probably go up to over 40,000, and with Auburn, which is divided from Lewiston only by the Androscoggin, would probably reach at least 50,000.

It will be seen that the population of Lewiston and Auburn is 21,000, and a part of the growth of Auburn is the result of the improvement of the water-power here, for though there are no factories there, many live on that side of the river who do business in Lewiston.

Second, Lewiston Lower Power, two miles below Lewiston Falls, on the Androscoggin river, of 1500 horse, which has not yet been improved.

Third, two miles up the river, at "Deer Rips," there is unim-

proved power of at least 2,500 horse; the two together being sufficient to drive cotton mills containing about 250,000 spindles.

These constitute the principal powers within the limits of Lewiston, though there are some smaller ones used for saw mills, grist mills, &c.

LEXINGTON—SOMERSET COUNTY.

[See Appendix.]

LIBERTY—WALDO COUNTY.

Digested from Selectmen's Returns.

TWENTY-FIVE POWERS.

These are situated on the St. George and Sheepscot rivers. First to the Fifteenth, (inclusive), in the first mile below the outlet of St. George's pond. The fall in that mile is 150 feet. Improvements, tanneries, saw mills, grist mills, stave and shingle mills, shovel handle factory, and many others. Part of the mills operate all the year; a part stop two or three months for want of water.

Streams connected with many lakes and ponds; artificial reservoirs feasible; freshets not very destructive; few rocks. The use of the power has greatly benefited the town.

Market, Belfast, by road.

LIMERICK—YORK COUNTY.

The Statement of H. H. Burbank, Esq.

[See also "Limerick and Waterborough."]

EIGHT POWERS, OR MORE.

On Brown's brook, so-called, are "Folsom's Mill," "Holland's Factory," and an unimproved power called the "Old Foster Mill Privilege," latterly called "The Enterprise"; and "Bradbury's Mill." On Staples' brook are "Durgin's Mill," and the old "Jackson Privilege," the latter unimproved; on Fogg's brook, is an unimproved power called the "Fogg Mill Privilege," also "Dole & Gilpatrick's Mill."

First, "Holland's Factory"; manufactures woollen goods; has a natural fall of twelve feet in a distance of five rods, with a dam of twelve feet head besides; never before measured. About half of the power is improved, with mills and dams; works the year round;

runs 1,144 spindles, could carry 2,800 do.; iron machinery; breast wheel, twenty feet; mill owned by Joshua Holland; stream is connected with three ponds, two of which are one and one-half by one and one-half miles; and one is one by one-half miles. At the outlet of two of these, dams could be easily constructed; the other has a dam; range of eight feet between high and low water; granite around the falls; good location for shops and houses near the mill; owner not disposed to pay for survey, not being disposed to sell, as he is making money; basin of stream nearly all cleared. Twelve years ago the owner bought the power, then not in use for some years; he now pays heaviest tax in town. Aggregate annual value of his manufactures will, probably, reach $150,000; made for Boston and New York markets; situated ten miles from line of Portland & Rochester Railroad; and thirty miles from Portland.

Gravelly soil at the fall. There is, also, a saw mill on the same fall, and a shingle machine, both working the year round; each having one saw.

Second, "Bradbury's Mill," is situated about one-fourth mile below the former; has a grist mill and a shingle machine; two feet fall, (natural,) in eight rods; small dam of three feet head; mainly worked with waste water of Holland's; could be much improved; good banks; worked the year round.

Third, "The Enterprise," formerly "Old Foster Mill Privilege," about one mile below Bradbury's mill; unimproved; has a fall of five feet in twenty rods; once used; had dam with ten feet head in fair condition; stream about two rods wide here; steep banks; sandy soil; rocks enough for building purposes.

Fourth; "Folsom's Mill" completes the list of powers on Brown's brook; grist mill; did not survey power; runs about three-fourths of the year; proprietor intends to improve the power and build mills for sawing boards, shingles, &c.

Fifth, "The old Jackson Mill Privilege," situated on Staples' brook; formerly, but not now, improved. Has a natural fall of eleven feet in running distance of twelve rods; steep banks; excellent opportunity for building dams; plenty of rocks; small stream; not connected with lakes or ponds; good location for shops, &c.; would be disposed to help bear expense of survey.

Sixth; "Durgin's Mill" is also on Staples' brook; small power, for sawing lumber; have not estimated it.

Seventh, on Fogg's brook is "The Fogg Mill Privilege," not now improved; has a fall of sixteen feet in eighty rods, with quick water above and below; narrow current; steep banks for eighty rods or more; any quantity of rocks on and in the banks; the old dam had head of eleven feet.

Eighth; a mile below this is "Dole & Gilpatrick's Saw Mill," cutting lumber nearly the year round; three feet fall in ten rods.

There are, besides the estimated powers, some privileges for sawing lumber and grinding grain sufficient for the adjacent neighborhood, but not worthy of note in this communication.

LIMERICK AND WATERBOROUGH—YORK COUNTY.

Digested from the Returns of H. H. Burbank, Esq., of Limerick.

[See also "Limerick"; and "Waterborough."]

TWO POWERS.

First, on Little Ossipee river; privilege occupied by the Waterboro' Manufacturing Company on the south side, and by Stimson's grist mill on the north or Limerick side; grist mill has three runs of stones; operates the year through. Two feet fall in twenty rods; dam, seven feet head; gradual rapids for some distance below points measured, (in the survey made by Mr. Burbank.)

Second, the "Scratch" privilege, on the same river; unimportant; formerly used. Natural fall, four feet in twenty rods, with rapids above and below. For a mile above the termini of the twenty rods, the river rises six feet, and for a mile below falls ten feet; all quick water; steep banks; no damage will be done by flowage; narrow current.

LIMINGTON—YORK COUNTY.

Digested from Selectmen's Returns.

[See also "Baldwin and Limington"; and "Limington and Standish."]

FIVE POWERS.

First, on Little Ossipee river, in the southeast part of the town, "Nason Falls"; height, sixty feet; length, one-fourth of a mile; width of the river, 175 feet. Improvements, grist, shingle and saw mills on each.

Second, three miles further down and near Limington falls,

"Chase's Falls"; height, thirty-five feet; length, forty rods; width of the river, 175 feet. Improvements, saw, box and shingle mills on each.

Third, on "Small's Mill Pond," at the outlet of Horn pond; length, 350 feet; width, thirty feet; height, twenty feet; saw mill and grist mill.

Fourth, a power on Salmon brook; grist mill and tannery.

Fifth, a power on Kellick pond; saw mill, clapboard and shingle machine.

No estimate of any of these powers by measurement has ever been made. The power is not all improved. The mills on the river work all the year; on the ponds, nearly all the year.

Large ponds connected with the stream, which can be converted into reservoirs at little expense. Rocks, granite, suitable and close at hand for building, on the rivers.

Market, Portland.

LIMINGTON—YORK COUNTY; AND STANDISH—CUMBERLAND COUNTY.

Digested from Returns of the Boards of Selectmen.

[See also "Limington"; and "Standish."]

THREE POWERS.

First, "Steep Falls," four miles below the rips between Baldwin and Limington, on the Saco river; height, forty feet in three-fourths of a mile,—forty-two feet by Standish report. River at this point 150 feet wide and ten feet deep. Improvement, a box machine, formerly a double saw. Two million feet lumber sawed annually; "not one-tenth of the power employed." This does not refer to the power at lowest run, probably.

Second, "Union Falls," on the Saco river, in the close vicinity of Steep falls; height, twenty-six feet in eighty rods; width of the river, 200 feet.

Third, "Limington Falls," one mile further down river; height, sixty-five feet in one-third of a mile; width of the river two hundred and fifty feet. Improvements, a saw mill, a box machine and shingle machine. Power never has been estimated by measurement. Spiral-vent wheel chiefly employed in all the mills in Limington.

Market, Portland.

LINCOLN—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, Second and Third, on the Mattanawcook stream, at or near Lincoln village, and all within one mile of the Penobscot river. Dams are erected on two of these, each with fifteen feet head and fall; and the same head and fall might be secured upon the third by a dam.

The power is used only in part; a grist mill with three runs of stones and two bolts, and a cabinet maker's shop, upon one dam; on the other, a saw mill, clapboard and shingle machine and carding mill.

There are four lakes upon this stream, one flowed by the grist mill dam, and covering 600 acres; the others flowed by reservoir dams of about the same extent of flowage. The stream is exceedingly constant; freshets harmless.

Fourth, a fall of sixty feet in the first sixty rods below the upper and longest lake on the Mattanawcook stream; not improved at all.

Fifth and Sixth, on the Cambolasse stream, which has about half the capacity of the former stream; a saw mill, clapboard and shingle mill, upon one dam; grist mill upon the other dam, with a reservoir dam above. This stream is connected with several large ponds, and is very constant.

All the lakes and ponds are capable of great improvement as reservoirs. Granite abundant in the form of boulders; ledges of slaty rock suitable for building. Basin of streams nearly all covered with woods.

Market, Bangor, via Penobscot river to Oldtown, thence by railroad. The European & North American Railway will cross the Mattanawcook between the mills.

LINCOLNVILLE—WALDO COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, "Ducktrap Falls," on Ducktrap stream, the outlet of several large ponds. Descent of the stream nearly three hundred

feet in three miles. The power in question is situated about twenty rods above Ducktrap bridge, and forty rods from high water mark. There is now a wooden dam upon it, built in 1852, about thirteen feet high; the banks of the stream are high, and the dam can be raised to any required height, "short of a hundred feet," at comparatively small expense.

A canal could be made, at little outlay, to conduct the water below the bridge, where factories could be built close upon tide water, so that vessels could load and unload by their immediate side. The harbor receives vessels drawing twelve feet.

Power upon this river within two miles of its mouth, with feasible improvement, estimated equal to 75,000 spindles.

Twenty-eight hundred acres of pond surface, all within a few miles, are available for reservoir purposes. The capacity of the ponds could be greatly increased by dams.

One grist mill on this power; no other improvements; the proprietor will *give* the privilege outright to any responsible party who will improve it. Proprietor, D. Howe.

Second, a power on the McCobb stream.

Third, a power at the outlet of Kendal pond; stave mill upon it.

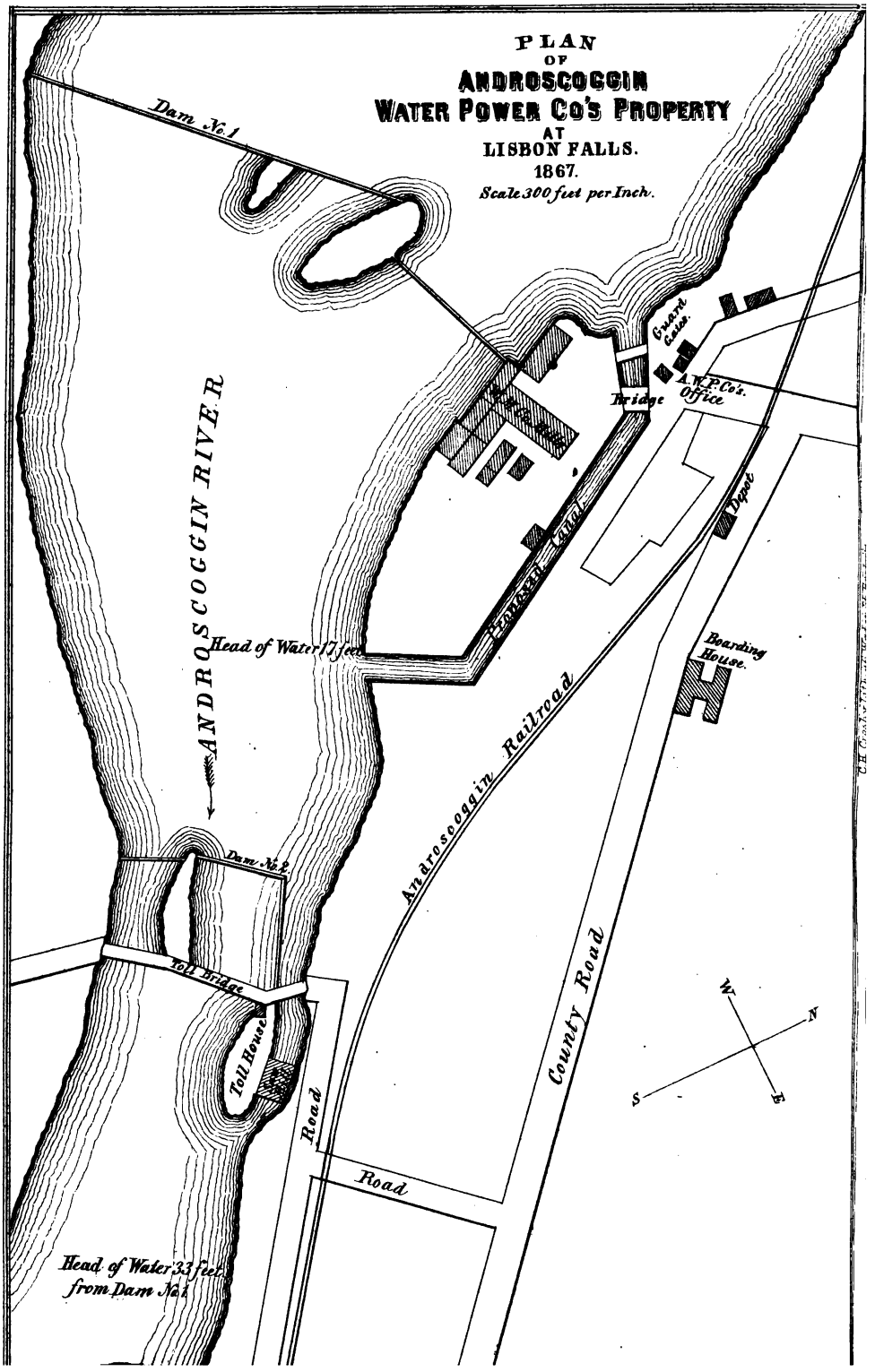
Fourth, a power at Gould pond; a saw mill upon it.

Fifth, a power at Andrews' point, owned by David P. Andrews; a saw mill upon it.

Sixth, a power at Stetson's pond; a stave, shingle and saw mill upon it.

The mills, on the greater part of the before mentioned powers, work only a portion of the year, the water being drawn down on account of flowage, there not being work enough for the mills, at present, to pay damage for flowing. No damage ever occurs upon the stream from freshets; no power in the State can be superior in this respect.

Abundance of excellent granite; and the best lime, the Coleman white lime, in the market; also, abundant clay of the best quality, for brick at tide water; convenient locations for mills; proprietors will pay part the expense of surveys.


PLAN
OF
ANDROSCOGGIN
WATER POWER CO'S PROPERTY
AT
LISBON FALLS.
1867.
Scale 300 feet per Inch.
Dam No. 1
Guard Gates.
A.W.P. Co's. Office
Bridge
Proposed Canal
Depot
Boarding House.
ANDROSCOGGIN RIVER
Head of Water 17 feet
Androscoggin Railroad
Dam No. 2
Toll Bridge
Toll House
County Road
Road
Road
W
N
S
E
Head of Water 33 feet from Dam No. 1

LINNEUS—AROOSTOOK COUNTY.

No Endorsement.

TWO POWERS.

First, on Bitter brook; not improved.

Second, on Mill brook; not improved.

Owned by Stephen G. Ward and Isaiah Keith.

LISBON—ANDROSCOGGIN COUNTY.

From the Statement of G. C. Moses, Esq., of Bath, and the Returns of the Selectmen of Lisbon.

[The proprietors had a survey taken of Lisbon Falls, and the plan and profile lithographed expressly for the purposes of this Report.]

EIGHT POWERS.

First, "Lisbon Falls," on the Androscoggin river, in the south-east corner of the town of Lisbon; eleven miles from Lewiston, seventeen from Bath, and thirty from Portland.

Height and Formation.—There were, originally, two falls about 900 feet apart, giving together a natural fall of thirty-one feet in the distance of 1800 feet, which fall is increased by the elevation of the dam to thirty-three feet, as per accompanying profile.

The upper fall, just below which the dam was located, is formed by a ledge of granite making directly across to an island about 300 feet distant, thence to the opposite shore, 650 feet farther. This ledge extends for more than half a mile down the river, on both sides, giving the best possible foundation for manufacturing establishments.

The dam is in two sections, each resting on the island. It is built on the ledge about eight feet lower than the brow of the natural fall, and being an average height of ten feet, raises the water but two feet above its natural level. It is constructed of hewn timber, in the form of crib-work, the lower tier of which is fitted to all the irregularities in the surface of the ledge, and firmly secured with bolts. The cribs are filled with rock ballast and covered with hard wood plank. The whole work and materials were designed to make it equal or superior to any dam in the country not built of stone. It is believed to be strong enough to withstand any force to which it may be subjected.

Volume of Water.—Volume in the dry season of the year,

108,000 cubic feet of water per minute, during working time of eleven hours per day, six days in the week, or 427,680,000 cubic feet of water per week. The improvement of the lakes, by which the run of water at Lewiston would be increased, would operate to the same extent in favor of the power at this point.

Power.—Without any increase as above named, in the dry season, equal to 5063 horse-powers, sufficient to drive cotton mills containing 303,000 spindles. But a trifling amount of this large power is yet in use. The expense of making the balance available has been pronounced, by competent engineers, very small, compared with the expenditure at other points of corresponding importance as to extent of power.

Lay of the Land.—Favorable for manufacturing establishments, with sufficient room for using the whole power. The surrounding territory is inhabited by farmers who furnish abundance of produce for the support of a large population.

Accessibility.—The Androscoggin Railroad runs through the land of the company, giving ample conveniences in the way of side tracks, to warehouses for storage of raw materials, fuel, &c., and for shipment of manufactured goods without drayage. By railroad Lisbon Falls is thirty minutes from Lewiston, one hour from Bath, one and a half hours from Portland, and six hours from Boston. Raw materials and manufactured goods can be transported to and from the mills as cheaply as from other interior manufacturing towns.

Proprietorship.—The power is owned by the Androscoggin Water Power Company, Oliver Moses, President; G. C. Moses, Treasurer. This company also own the real estate along the river, the toll bridge, saw and grist mill on the lower fall, and other property in the vicinity.

N. B. The plan does not show the extent of the company's land, which reaches some 1500 feet farther down river, and a much greater distance from the river opposite the toll bridge and below.

Improvements.—The only company now in occupation of the power is the

Worumbo Manufacturing Co., F. Gutmann, Agent. Incorporated 1864.

Capital stock,	$250,000
Number of mills,	2,—10 sets of cards.

Goods manufactured,	All-wool beavers.
Females employed,	70
Males "	100
Power used,	150 horse.
Wheels,	2 turbines.
Buildings,	Brick.
Production per annum,	120,000 yards 6-4. 225,000 pounds of finished cloth.

Incidentals.—Building materials of all kinds are to be obtained in the immediate vicinity at reasonable cost. The Water-Power Company own two saw mills, supplied with abundance of pine and hemlock from the surrounding country. Brick of excellent quality are made upon the land of the company. Abundance of stone suitable for foundations and canal walls can be had on the spot where it is wanted. The village is yet small, but growing, and a commendable improvement in schools and churches is already manifest. To make an increased supply of water at Lewiston available at this point, it would only be necessary to provide means to hold back the water, left in the river between the two places after close of work at Lewiston, for use the next day, as the arrangements there would of course be complete for holding all the water coming down to that point in the night. The reservoir above the dam at Lisbon falls being very large, but slight elevation would be requisite. With this increase the power would be nearly double that now used at Lewiston, and would support a population of 30,000 persons.

Second and Third, at Factory village, on Sabattas river, owned by N. W. Farwell of Lewiston. The upper one has a fall of ten feet; is under improvement; double turbine wheel; power, 175 horse. Lower fall not improved, save in an old grist and saw mill. Fall, twenty feet; power, 325 horse. Stream connected with the Great Sabattas pond; water constant; freshets not destructive.

Fourth, at Lisbon plains, on the same river, about one-third of a mile from the Androscoggin river; twenty feet fall; unimportant; owned by B. Farnsworth and others.

Fifth, about one-fourth mile above; fall twelve feet; the property of the Paper Company; mill built 1866; manufactures one and a half tons newspaper per day; machinery best quality.

Sixth, next above, the property of the Farnsworth Manufacturing

Company; fall, thirteen feet; woollen mill, built 1865; first-class machinery; manufactures 30,000 yards per month of "three-fourths" goods; spare power except in drouth.

Seventh and Eighth, on Little River stream, near its junction with the Androscoggin. No details.

LITCHFIELD—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS, OR MORE.

First, on Patten Mill stream, which rises in swamps; a saw mill; operates six months.

Second, Third, Fourth and Fifth, on Potter Mill stream, the outlet of Loon pond; not improved by reservoir dams, but holds out well in dry seasons. On the lower dam a grist mill; above, on the other dams, are a carding machine, shingle machine, saw mill and grist mill. The lower privilege is a good one; has twelve feet head and six feet fall.

Sixth, Seventh, and Eighth, on the outlet of Purgatory ponds, four in number, which cover over a thousand acres and drain three thousand acres. A dam at the outlet of the lower pond, holds back a part of the surplus waters. The outlet channel might be deepened and a higher dam built at no great cost, and the power rendered available all the year.

The upper power has twelve feet head and six feet fall; saw mill, grist mill—old, but does a great deal of grinding; saw mill cuts 200,000 feet of long lumber, and the shingle machine about 200,000 shingles.

The lower power is operated by E. Plimpton & Sons, in the manufacture of forks and hoes; twelve feet head and four feet fall. The Plimptons run their machinery from October to July.

There are several smaller powers in town, capable of operating small machinery a portion of the year.

LITTLETON—AROOSTOOK COUNTY.

Digested from Selectmen's Returns.

"SEVERAL" POWERS, ETC.

Three are situated on the Big brook, "several" on the South branch of the Meduxnakeag river, and one on a branch thereof.

The powers on Big brook are each sufficient to drive a saw mill or grist mill the year round. Those on the Meduxnakeag "can propel any amount and size of machinery."

Only one of the powers is improved, by a saw mill, owned by Lewis B. Johnson. It operates part of the year, sawing lumber for local and settlers' uses.

The Meduxnakeag drains a large area of country and is connected with several large ponds; artificial reservoirs of very large capacity can be cheaply constructed on Big brook, and doubtless on the river also. Freshets are not very heavy; lay of the land about the powers most excellent for mills and workshops; basin mostly wooded.

Market, Houlton, and Richmond station.

Livermore—Androscoggin County.

From the Statement of Hollis Turner, Esq.

ELEVEN POWERS.

Four of the above are situated on a stream from Long pond.

First, a saw mill, near the outlet of the pond, owner not ascertained; height of fall estimated nine feet; square inches of water employed, six hundred.

Second, a grist mill, owned by Leander Bigelow; height of fall twelve feet. Said mill has two runs of stones, driven by a Blake wheel, employing three hundred square inches of water. It does a small business, only coarse grinding.

Third, a pill-box factory; particulars not ascertained.

Fourth, rake-factory; particulars not ascertained.

On a stream, from Turner pond, are two powers, improved; also, three unimproved, as follows:

Fifth, at the outlet, a water power, unimproved; height of fall, eight feet; capacity, twelve hundred square inches; ownership, Hollis Turner.

Sixth, a short distance below, a grist mill, having two runs of stones, one for wheat and one for coarse grinding; a corn-and-cob crusher and necessary machinery for cleansing and bolting wheat; height of fall fifteen feet; capacity, twelve hundred square inches of water; ownership, Hollis Turner. This mill does a good business; centre-vent wheels.

Seventh, just below, a saw mill, shingle mill and cutting-off saw,

in one building, driven by a Stearns' wheel, a Howard wheel and Tub wheel, respectively; height of fall nine feet; capacity, twenty-five hundred square inches; ownership, Lewiston Company. This mill does a good business at flood of water, spring and fall.

Eighth, about a half a mile below, on the same stream, the same company own another water-power, not improved at all, equal to, or better in many respects, than that before described.

Ninth and Tenth, smaller powers on separate streams; a shingle mill on each; both small streams; particulars not ascertained.

Eleventh, on the same stream upon which is the last mentioned grist mill, opposite the mill is another privilege not improved, with a capacity equal to that of the grist mill. Ownership, Hollis Turner.

LOVELL—OXFORD COUNTY.

From the Statement of the Selectmen.

SIX POWERS.

First, "Lovell Village Power," on Kezar river; is first-class, running a saw mill, including stave mill, shingle mill, planing machines, and saw for any sized lumber or logs, and running a superior grist mill with four sets of stones. The water is more than abundant for operating all these mills through the year. Fall at dam is about fifteen feet, and width of stream at dam about 100 feet. Power not all improved.

Second, Alder brook privilege at "Number Four"; has a pond well supplied with water and is a superior power for one of its capacity, and can furnish an ordinary power all the year. Fall at dam, eight feet or more; has on it a carriage factory, gun factory planing and turning lathes, for other use than the factories aforesaid. Power not wholly improved.

Third, "Kezar Falls," on Kezar river; height of fall, nearly twenty feet, nearly perpendicular. It is now entirely unoccupied. It is fed by Kezar river alone *now*.

Fourth, at "Slab City"; Heald's pond is the reservoir, and is of good size, and furnishes water for grist, saw, and stave mills all the year, and is to this extent occupied.

Fifth, "Succor Brook," a small stream and power, fed by one small pond, and can run in spring and fall; has a saw mill.

Sixth; Andrew's pond at its outlet has "Cushman's Mills"; stave and shingle mill. A small power.

The water-power at Lovell village is on Kezar river, which is the outlet of five ponds known as the "Five Kezars." Kezar, above said water-power, further receives said Alder brook, and several other small brooks. The extent of these ponds is judged about 150 acres; a survey would doubtless show it to be more.

The pond of "Number Four," privilege is in extent about ten acres; that of Heald's pond at Slab City, not known to the reporter, but is larger than that of "Number Four," 25 to 30 acres; the others of minor importance.

Artificial reservoirs are partially used at Lovell village and Number Four. That at Lovell village is capable of becoming very large by dam at outlet of said "Five Kezars," at small expense.

Freshets do not have great effect at Lovell village, as the dam at the outlet of the Five Kezars partially controls the waters in Kezar river, and the dam at the mills is of sufficient width to let off the water readily; this dam could be raised almost ad libitum; nor do the freshets essentially affect the volume at Number Four, on account of the pond.

Rock abundant for building purposes. Lay of the lands, convenient. As regards the effect of the improvement of the power, the effect has been the reverse of what might be conjectured, in this manner, to wit: the increase of wealth and population has naturally forced the owners heretofore to improve the mills, especially at Lovell village. The power has been brought up by and to the wealth and population, and not the wealth and population by and to the power. It is, in a word, used only to answer the direct necessities of the people, and is to-day comparatively undeveloped.

Our market is at home, wholly. Nothing is carried beyond a circuit of fifteen miles.

LOWELL—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

TEN POWERS.

First, on Passadumkeag river, "Passadumkeag Rips," sixteen feet fall; not improved.

Second, on Passadumkeag river, "Little Falls," sixteen feet fall. Improvements, "Lord's mill" and "Webb & Co.'s tannery."

Third, on Passadumkeag river, "High Ledge," nine feet fall; not improved.

Fourth, on Passadumkeag river, "Lightning Rips," seven feet fall; not improved.

Fifth, on Eskutassis stream, "Varney's Mills," fall fourteen feet; mill not now in use.

Sixth, "Porter's Grist Mill," fall ten feet; grist mill and shingle machine.

Seventh, "Porter's saw mill," fall ten feet; saw mill in use.

Eighth, "Woodman's Mill," ten feet fall; mill not now in use; "mill and dam both run down."

Ninth and Tenth, sites unoccupied.

The total fall on Eskutassis stream is seventy to eighty feet in four and a half miles; total fall on the Passadumkeag not known.

No estimate of the power has ever been made by accurate measurement.

Each power on the Passadumkeag will run four saws through the whole sawing season. Those on the Eskutassis will run one saw four months of the year. The grist mill and tannery work all the year; machinery not of the best construction.

The capacity of both streams can be greatly increased by the use of the connected lakes for reservoirs; the Passadumkeag in particular; dams are already erected at their outlets, but are used only for log driving purposes.

Granite abundant for all building purposes; the leading rock, slate. Lay of the land about the sites, level and good; ninety-nine hundreths of the basin of the Passadumkeag covered with forests; annual product about $100,000.

Market, Bangor, by county road to Passadumkeag, thence by boat to Oldtown, and thence by railroad to Bangor; or by rafts direct from Lord's mill to Bangor, by the river.

LUBEC—WASHINGTON COUNTY.

[See Appendix.]

LUDLOW (Belfast Academy Grant on the Map)—AROOSTOOK COUNTY.

Selectmen's Statement.

ONE POWER.

One small power on Small's Mill brook; a saw mill upon it that works fall and spring and during occasional seasons of high water.

LYMAN—YORK COUNTY.

[See Appendix.]

LYNDON—AROOSTOOK COUNTY.

Digested from the Statement of J. B. Hayes, Esq.

SEVEN POWERS.

Four of these are situated upon Caribou stream, at Caribou village, and within half a mile of its mouth. Total height of the series, fifty feet.

First, (upper) power, saw mill, clapboard and lath machine.

Second, grist mill, three runs of stones, operates all the year; planing mill.

Third, unoccupied at present; privilege sold and a woollen factory to be erected next season.

Fourth, very good; dilapidated grist mill, unused; shingle machine in operation part of the year.

A very small proportion of the power now used; the grist mill alone now operates all the year; the others might so far as regards supply of water. The stream is connected with only one pond 1·5 by 0·5 miles in extent. On one branch a small artificial reservoir might be constructed; on the other a very large one. The basin of the river is large and lies in easy swells, consequently freshets are neither high nor sudden; no damage from high waters for twenty years; range from low to high water great. By means of artificial reservoirs a great amount of machinery might be run all the year.

Underlying rocks, a mixture of slate and lime, not suitable for building purposes, yet the bed of the stream and the banks, (which are all solid ledge,) endure aqueous and atmospheric action persistently. The slate stands fire well, also. The lay of the land about the falls, the very best possible for the location of mills, shops, etc.

Seven-eighths of the basin of the stream are covered with woods. "Climate rendered singularly humid by the lakes and surrounding rivers and adjacent high ridges of land."

Influence of the improvement of the power upon the town very great. A thriving and beautiful village has sprung up within the last four years; several buildings now going up; a church erecting to cost $2,500, "all paid for in advance by ourselves." An Academy in contemplation.

Market, Tobique, on the St. John river, fifteen miles, thence by river to the seaboard, or by State road to Houlton; thence to Bangor by said road; or by St. Andrews Railroad, to the ocean. Trade mostly by the latter.

Fifth, Sixth and Seventh powers, upon brooks, operating a saw mill each, about half the year.

MACHIAS—WASHINGTON COUNTY.

Statement of H. L. Hill, Esq.,—Endorsed by the Selectmen.

FOUR POWERS.

The water-power in this town consists of a series of falls on the Machias river, naturally divided into four general privileges, each containing from one to three special privileges, or ownerships; and a dam thrown entirely across the river a distance of 130 rods up from the lower falls, making a second fall, twelve feet six inches, from the surface of the lower pond.

These privileges are located at the head of navigation, six miles from the river's mouth and three miles above its junction with the East Machias river; there is sufficient depth of water up to the lower falls to float vessels of 600 tons burthen with full cargo. The difference of level from high water at average tides, to surface of lower pond, is twenty feet six inches. The fall is distributed as follows: the fall at upper dam, twelve feet six inches; fall at extreme lower falls, where about one-half the lower machinery is located, twenty feet six inches; the remaining one-half a fall of fifteen feet. There is a canal from the upper dam, running parallel to the river bank, a distance of sixty rods, upon which are a planing mill, and sash, door and blind factory. The embankment of this canal is lower than the dam, but the conformation of the river bank is such, that two-thirds its length may be raised to the same level as

the dam, thereby making the fall from the canal equal to that from the upper pond.

The volume of the river at lowest run, is 15,000 cubic feet per minute, which, with the use of wheels that will give seventy per cent. of the theoretic power of water, yield 630 horse-power. The whole amount of long lumber and laths sawed in 1866 by water-power, (allowing 500 feet cut surface per 1000 laths,) was 38,266,-000 feet, allowing that amount of work to be done in 182 days of ten hours each, (which is maximum length of sawing season,) requires 350 horse-power. Allow for driving grist, carding, and planing mills, and sash, door and blind factory, fifty horse-power, makes an aggregate of 400 horse-power, leaving a balance of 230 horse-power for the 182 days, and the whole power the balance of the year surplus.

It is not to be understood that there is, in the present arrangement of motors and machinery, a surplus of power during all the working season, as the wheels in use are not generally of the best construction for economizing power, nor has full advantage been taken of the fall in their location. The wheels in use are all of the turbine class, representing, (comparatively,) a large variety of style, amongst which are the Perry, Stearns, Union, Close & Rider wheels; the last two being considered best, one of each kind being in use here in mills adjacent to each other; but under the conditions they have so far been working, no fair judgment can be made from work performed of their comparative merits as power economizers.

The power is owned by S. W. Pope & Co., Wm. H. Hemenway, W. C. Holway, C. W. Vose, E. Longfellow & Son, Walker & O'Brien, and others.

The river is fed by numerous tributary streams, upon which, and the main river, are eighteen ponds and lakes, covering an area of sixty square miles, many of which could be increased in capacity at a comparatively small expense by the erection of dams. The volume of the river is increased from three to five times by freshets; no material damage of property has been caused thereby; total range from high to low water, eight feet.

Extreme low water prevails one-sixth of the year; extreme high water, one-twelfth; the balance of the year the volume is from two to three times the before given estimate. The outcropping and un-

derlying rocks are trap, but there is an extensive granite quarry within three miles of the falls. The soil upon the river banks within the limits of the town, is principally sandy loam, upon a gravel or rocky bed. The lay of the land in reference to the erection of mills and workshops, is favorable.

The total length of the river is seventy miles, watering in its course, by itself and its tributaries, fifteen towns and townships, eight of which, except that part covered by lakes, ponds, marshes, barrens, and some portions destroyed by fire, are still entirely covered by forest, from which the lumber operators take an average of forty million feet of lumber per annum; a bountiful supply still remains for future enterprise to draw from. The residue of towns and townships also retain upon their surface a large portion of forest, of perhaps at present less commercial importance, yet forming a fund of raw material upon which capital and labor may be remuneratively employed, and only waiting for the magic touch of capital and enterprise to be converted into wealth.

From these forests and mills are annually sent by vessels to Boston, New York, and to various ports in the West Indies and South America, $650,000 worth of lumber, (timber, boards and laths, that being the principal manufacture here for shipment; doors, sashes and blinds are manufactured here for home consumption and surrounding country; also planing for vessel and house building). This amount shows no falling off from former years, either in total annual product or value, but rather an increase.

Within the last seventeen years the capacity of the town to accommodate its growing population has been increased three-fifths, yet the demand for tenements is greater than ever before; our mechanics and laborers are constantly employed, and our business men invite capitalists to unite with them in opening new avenues of industry.

MACHIASPORT—WASHINGTON COUNTY.

Selectmen's Statement.

There is no water-power in this town.

MADAWASKA PLANTATION—AROOSTOOK COUNTY.

[See Appendix.]

MADISON—SOMERSET COUNTY.

Digested from Selectmen's Returns.

[See also "Anson and Madison."]

FIVE POWERS.

There are five dams upon the outlet of Madison pond, furnishing a fall of fifty feet within a running distance of one mile from the outlet.

For half the year the pond would supply 1,000 inches of water; the remaining part of the year it would average 300 inches for ten hours per day.

One fall of ten feet is not improved. There are two circular-saw mills, four shingle mills, two grist mills, one sash and blind factory, several lath machines, and a tannery, in operation upon the stream.

The grist mill and sash and blind factory operate nearly all the year; the shingle mills run over three-fourths of the time; saw mills run about three-fourths of the time. Machinery very good; water-wheels invented by S. L. Gould of Skowhegan, similar to the Reynolds wheel.

Madison pond is estimated to contain about 2,000 acres, flowed six feet by a dam at the outlet. Freshets are controlled by the dam, rendering the stream perfectly safe and very constant. Rocks about the falls consist of hard slate. The market for the products of the mills is at Skowhegan depot, six miles distant, by road.

MADRID—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, on the west branch of Sandy river; a grist mill, saw mill, clapboard and shingle mill; height of fall about seven feet. The power in the drouth of summer or in the dead of winter, is scarcely sufficient to carry more than one run of burr stone. Stream has its source in several small ponds, near Saddleback Mountain and the hills to the west, whose storage capacity might be doubled by dams. Area of ponds, about 500 acres. About seven-eighths of the basin of this stream is covered with forest.

Second, on the Perham stream; saw mill, clapboard and shingle mill. No fall of any account; the head is produced solely by the dam. Stream is fed by springs, with no chance for artificial reser-

voirs. Mills run from two to three months in the year, and cut from two to three hundred thousand of lumber of all kinds, by running by night more or less. Nineteen-twentieths of the basin of the stream covered with forest, a large part of which is spruce.

Third, on the Oberton stream, known as the "Great Falls"; unoccupied; height of the fall about 100 feet in ten rods. The volume of water is small,—would in a drouth all run through a spout less than ten inches square, without head. The entire basin of the stream is an unbroken wilderness. A good location for a lumber mill, and about eleven miles from Phillips village, our market-place. An artificial reservoir might be constructed on this stream at small cost; capacity estimated at fifty acres.

Fourth, on the Sargent stream; unoccupied; volume of water smaller than the last mentioned power; fall about eight feet. No chance for artificial reservoirs.

Fifth, a saw mill, clapboard and shingle mill, one-fourth of a mile above the foregoing power, but the privilege is rather a poor one. About seven-eighths of the area of the basin of the stream is covered with forest.

These are all the water-powers worth mentioning, yet so steep are the water declivities in this town, that a head of water might easily be raised almost anywhere on our streams, sufficient to carry a saw mill or other machinery. The volume of water in all the streams varies from lowest to highest water in the ratio of one to one thousand, or more.

Old-fashioned flutter wheels. Each of the three saw mills cuts 200,000 feet of boards per year. With improved machinery, they might do double the amount. Rock, the coarsest granite.

MANCHESTER—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

THREE POWERS, OR MORE.

First, on a small stream in the north part of the town, a saw mill which runs about two months in the year, doing a small custom work, (say 30,000).

Second, near the centre of the town; carriage factory; overshot wheel, which drives a circular saw and some other machinery.

Third, on the Cobbossee-contee river, the outlet of the Cobbossee

pond, and several other connecting ponds in Readfield and Winthrop. An excellent dam across the stream, a few rods below the outlet. This would, undoubtedly, be a valuable power, holding as it does such large reservoirs of water.

"Several small streams could be made useful in driving machinery for a portion of the time, by forming ponds and reservoirs; they are all of very gradual descent, without any very considerable falls or rapids."

Mapleton Plantation—Aroostook County.

Digested from Assessors' Returns.

TWO POWERS.

First, a privilege on the Presque Isle stream; unoccupied. No further details.

Second, "Hines' privilege," on the same stream; saw mill upon it; abundant lumber in the vicinity. Mill will saw 3,000 feet of boards, 10,000 shingles, and 1,500 clapboards per day; works nine months in the year.

One artificial pond could be cheaply constructed; no natural lakes or ponds. Improvement of the power has increased the wealth of the town one-fourth.

Market, Presque Isle, by road.

Mariaville—Hancock County.

Digested from Selectmen's Returns.

FIVE POWERS.

First and Second, on West brook, one improved in tannery and saw mill; the other, in saw mill and shingle mill.

Third, on East brook, saw mill.

Fourth, on Hopkins' brook, saw mill and shingle mill.

Fifth, on the West Branch of Union river; unimproved.

West brook is connected with two quite large ponds; their capacity can be much increased.

Market, Bangor, twenty miles; Ellsworth, thirteen miles, by road.

MARION—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

NINE POWERS.

First, on the Cathance river; ten feet head; a single-saw mill and lath mill, with old wooden machinery; manufactures 600,000 of long lumber per year. With improved machinery, would yield four-fold. Owned by T. W. Allan & Son of Dennysville.

Second, three-quarters of a mile above; rips of ten feet fall; unimproved. Owned by John Smith of Dennysville.

Third, "Lath Mill Dam," one-quarter of a mile above; head thirteen feet; natural privilege,—scarce any dam needed; shingle mills and lath mills. Owned by Allan & Smith.

Fourth, "Saw Mill Dam," ten rods above; nine feet head; saw mill; owned by T. W. Allan of Dennysville.

Fifth, Sixth, etc., on Clifford's stream, on which are five falls or pitches, with no lakes or ponds above. A chance to flow a small pond at each fall. Stream exeeedingly variable.

The falls on Clifford's stream with improvements and modern machinery, would run mills two-thirds of the time.

The Cathance stream is the outlet of Cathance lake, which covers five or six square miles. There is a dam at the outlet which holds in check a large body of water, so that the powers are comparatively constant, and may be rendered still more so.

MARSHFIELD—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS.

Situated on Marshfield stream; from the tide two miles by the county road to Mark Longfellow's lake.

At the different mills the head and fall are from seven to ten feet. The power is only partially improved, in saw mills, lath mills, grist mill, flour mill, and carding machine; the grist mill alone operates all the year; wheels mostly old style; some, Stearns' cistern wheel.

The stream is connected with four ponds; one a mile long, which flows a large body of water. The power, if improved properly, would furnish abundant water all the year; slight damage from

freshets. The best of granite; lay of the land convenient; powers on the county road. Proprietors will aid in a survey.

Market, Machias, by land or sea.

The privilege at T. B. Getchell's mill, at the outlet of the lake, is a good site for a woollen factory or other machinery.

MASARDIS—AROOSTOOK COUNTY.

Selectmen's Returns.

THREE POWERS.

First, "Reed & Clayton's Privilege," on the Masardis stream, a branch of the Aroostook river.

Second, "Trafton's Privilege," on Squawpan stream; Squawpan lake is ten miles long, and can be flowed two or three feet by a dam.

Third, "Clayton's Privilege," on the Aroostook river. "Fall sufficient for any machinery."

No improvement of any kind. No mills of any sort in the town, except a circular saw on a little brook for sawing sash and other small stuff. "Sum of power unknown, but it is very great." Water abundant and constant.

MASON—OXFORD COUNTY.

Digested from Selectmen's Statement.

FOUR POWERS.

All upon Pleasant river; chief fall, thirty-five feet in twenty rods. Improvements, grist mill, saw mill, and two shingle machines. Mills operate all the year on the largest fall; on the others, six months; centre-vent and Rose wheels.

No lakes or ponds. No artificial reservoirs feasible. Stone not suitable for building. Basin seven-eighths covered with woods.

Market, Portland, by Grand Trunk Railroad.

MATINICUS PLANTATION—KNOX COUNTY.

Statement of the Assessors.

This is an island at the mouth of Penobscot bay, 800 acres in extent; has no water-power, but fish innumerable in the surrounding sea; natural cranberry meadows, and a glorious prospect. There could be no finer summer resort.

MATTAWAMKEAG—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Gordon Falls," on Mattawamkeag river.

Second, "Slugunda Falls," on Mattawamkeag river.

Third, "Ledge Falls," on Mattawamkeag river.

Dams on each of the above to facilitate the driving of logs; no other improvement; privileges all owned by Samuel Stockwell. The volume of water upon the Mattawamkeag is, of course, very considerable at all seasons, it being a large river and connected with numerous and large ponds. If the falls above specified are, or may be made of considerable descent, the power must be highly important.

Fourth, on Madaceunk stream, the outlet of Madaceunk pond, which covers four or five square miles. One old saw mill, which operates about half of the year; whether the pond is improved as a reservoir, not stated. Rocks suitable for building; lay of the land, about the falls, excellent; basin of the streams nearly covered with woods.

Market, Oldtown and Bangor, by road; and by the river, "running our lumber in rafts, or singly by the log."

MAYFIELD—SOMERSET COUNTY.

[See Appendix.]

MAYSVILLE—AROOSTOOK COUNTY.

[See Appendix.]

MAXFIELD—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, "McIntosh's Falls," on the Piscataquis river; height, eight feet in twenty rods. No improvement.

Second, "Whitney's Falls," on the Piscataquis river; height, eight feet in twenty rods. No improvement.

Third, a power on Hardy brook, fed by a lake. No improvement.

Market, Oldtown and Bangor, by road and river.

MEDDYBEMPS—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, Meddybemps Outlet privilege, at the outlet of Meddybemps lake; fall twenty feet in one-eighth of a mile. Power will carry three gangs of twelve saws each; operates all the year; owned by Benjamin Lincoln & Co., of Dennysville. The lake which feeds this power is eight miles long and four or five miles wide.

Second, "Bearce's Privilege," at the outlet of Bearce's lake; fall about twenty feet in one-eighth of a mile; will carry a gang of twelve saws for the whole year.

Overshot and vent wheels. No damage from freshets. Range of water six feet from highest to lowest. Granite abundant and good; lay of the land good; basin mostly cleared.

MEDFORD—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Schoodic Falls," on Piscataquis river, fall fifteen feet in one hundred rods. Stream fifteen rods wide, eighteen inches deep at low water; ledge bottom, projecting above the surface, at points, at high water; would carry about twenty of Stearns' twenty foot wheels, at low water. "One of the best privileges in the State, safe and convenient for manufacturing." It is unimproved.

Second, "Little Falls," on Piscataquis river; fall ten feet in thirty rods; thirteen rods wide, fourteen inches deep at low water; would carry twenty of Stearns' wheels, as above, at low water. It is unimproved.

Third, "Schoodic Stream Falls," on the outlet of the Great Schoodic lake; fall twenty-two feet in thirty-five rods; would carry four Stearns' wheels at low water. It is unimproved.

Fourth, on Cold brook, fall ten feet in thirty rods; saw mill and shingle machine; operate about half the year.

Stearns' wheel used.

The power on the Piscataquis is sustained by the whole volume of the river which is, in this town, not far from its mouth, draining a very large area of country, and is fed by numerous large lakes

and ponds. The Schoodic lake, which contributes to the Schoodic stream, is twelve miles long and four wide, a reservoir of immense capacity. Artificial reservoirs, also, are feasible at small expense. Slate rock; lay of the land level and favorable; proprietors will aid in a survey.

Market, Bangor, by road.

MERCER—SOMERSET COUNTY.

Digested from Selectmen's Returns.

[See also "Mercer and Starks."]

TWO POWERS.

Both are situated on Bog stream; first fall fifteen feet in ten rods; the other not so great. Improvements, mills, tannery, and starch factory. Machinery will operate about eight months; power only partially employed.

Rocks, flint; lay of the land good. Market, Skowhegan, by road.

MERCER AND STARKS—SOMERSET COUNTY.

Digested from Returns of the Boards of Selectmen.

[See also "Mercer"; and "Starks."]

ONE POWER.

"Dickerson's Rips," on Sandy river; in two pitches; first, 3·5 feet in twenty rods; second, 4·5 feet in thirty rods, and fall continued a long distance below. Owned by James Davis. Formerly mills upon the privilege; dam fallen to decay. Abundant water for a considerable number of mills all the year. Range of water, six feet.

MEXICO—OXFORD COUNTY.

Statement of Selectmen.

ONE POWER.

"Kimball's Mills," on Swift river; fall fifty feet in half a mile. Only improvement, a saw mill, which works all the year.

MILFORD—PENOBSCOT COUNTY.

[See Appendix.]

MILLBRIDGE—WASHINGTON COUNTY.

Selectmen's Returns.

No water-power in town, except upon small brooks, and none sufficient to drive a mill for grinding grain.

MILO—PISCATAQUIS COUNTY.

Digested from the Statement of Phineas Tolman, Esq.

TWO POWERS.

First, the "Sebec Falls," at Milo village; nine feet head and a fall of fourteen feet in the distance of about twenty rods below the dam. There are a grist mill, saw mill, shingle machine, and small woollen factory, occupied by James & Wm. Gifford, all in operation.

Always sufficient water at all seasons of the year; water enough with a good dam and the best improved machinery to do from ten to twenty times as much as is now doing. It is a warm stream, always receiving a full supply of water from the large reservoir of the lakes and ponds connected.

The land about the stream is very convenient for building. Slate rock. No machinery has ever been injured or carried away by freshets. The flow of water is singularly uniform.

Second, on the Pleasant river, on the road from Milo to Brownville, about two miles from Brownville village; not occupied; judged to be a very good one. It was reserved by Mr. J. Lake for power purposes, when he sold the land near it.

There is reported to be an immense amount of lumber about the Sebec lake and its tributaries. The Sebec river is the outlet of Sebec lake, which is "twelve miles long and eight miles wide," and affords an inexhaustible supply of water.

MILTON PLANTATION—OXFORD COUNTY.

From the Statement of the Assessors.

FOUR POWERS.

On Concord river, the outlet of Great and Little Concord ponds; water enough to drive a saw mill most of the year; by damming the pond, capacity might be much increased. In the driest time known, stream carries water enough to grind forty bushels per day.

First, on the Great Concord river, in the northerly part of the plantation, "Swett's saw mill and shingle machine"; a carriage shop now building.

Second, about half a mile above, is "The Falls"; descent, thirty to forty feet in about twenty rods; is called, by mill-men, a grand water-power.

Third, about a mile above, a fall of some twenty feet; is called a good water privilege.

There is, in the vicinity of the powers, timber enough to wear out quite a number of mills; mainly spruce, hemlock, and hard wood. The mills are situated about eight miles from Bryant's Pond station, on the Atlantic & St. Lawrence Railroad, by a level road. The country around is well adapted to farming purposes.

MINOT—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

[See also "Minot and Poland."]

THREE POWERS.

First, on Bog brook, "Faunce's Mill"; fall 12·5 feet in fifty feet; operates part of the year.

Second, "West Minot Falls," on Bog stream; fall 22·5 feet in 500 feet.

Third, "Hillburn Falls," on Bog stream; power not used.

First and Second partially improved in saw mills and a planing mill. Stream will run the planing mill all the year. One-third of the basin covered with woods.

Market, Portland and Lewiston, by rail and road.

MINOT AND POLAND—ANDROSCOGGIN COUNTY.

Digested from Joint Statement of the Boards of Selectmen, based upon the Survey of S. F. Waterman, Esq.

[See also "Minot"; and "Poland."]

FOUR POWERS.

All these are situated on the Little Androscoggin river.

First, "Mechanic Falls," fall thirty-seven feet in 950 feet distance; velocity of current ninety-six feet per minute. Area of cross section 270 square feet. Power not half improved; partially improved in paper making. A first-class stone dam at the head of

the fall; a wooden dam midway, and space for another dam below. Turbine wheels. Power owned by A. C. Denison & Co.; mills operate all the year.

Second, "Page's Mills," fall fourteen feet in 1,500 feet distance. Volume of water same as at Mechanic falls, less Waterhouse brook, which is 3,000 cubic feet per minute. Power partially improved in sawing lumber, in the manufacture of sash and doors, and grist mill; mills operate all the year; power owned by Moses Page and A. A. Buckman.

Third, "Hackett's Mills," fall thirteen feet in 250. Volume of water same as at Mechanic falls, plus Bog brook, 1,500 cubic feet per minute. Improved in part in saw mills; power owned by J. T. Waterman and Willard Buck; mills operate all the year.

Fourth, "Minot Corner" fall, 11·5 feet in 500 feet run. Volume of water same as at Hackett's mills, with the addition of a small tributary. Improved in part in saw mills and grist mills; mills operate all the year. Owned by A. S. Freeman, Willard Buck, et. al.

The river is connected with fifteen large ponds and numerous small ones. Their capacity can be largely increased for reservoir purposes, to the amount, it is estimated, of doubling the power. Sites for building excellent; danger from freshets small.

Monhegan Plantation—Lincoln County.

[See Appendix.]

Monmouth—Kennebec County.

Digested from Selectmen's Returns.

NINE POWERS.

Four of the above are situated upon Wilson stream, at North Monmouth, within about one-third of a mile, the total descent in that distance being fifty feet.

First; on the upper dam is a webbing factory, doing a business, when it runs the whole year, of about $25,000. Also on the same dam, a shovel-handle factory, which turns out some forty doz. shovel handles per day. In the same building is a shoe-peg factory, which manufactures some 3,000 bushels pegs annually. Also a saw mill, which cuts some 300,000 of lumber annually.

Second; on the second dam are a webbing factory, heel-iron works, and spinning-frames for spinning woollen yarn, the latter two doing $25,000 per annum.

Third; the third dam is used in the manufacture of shovels and hoes,—some twelve to fifteen hundred doz. of shovels, and some eight hundred doz. hoes, annually.

Fourth; the fourth dam operates a grist mill, doing a common custom business in an agricultural town.

Wilson stream is very safe; no damage has occurred by freshets for fifty years; double the business could be done that is now, if the water were properly husbanded. Some 150 men and women are engaged in these several shops and mills. The stream is fed by three ponds, whose combined area is three or more square miles. Mills operate the whole year.

Fifth, Sixth, Seventh and Eighth; the Cochnewagan stream at Monmouth Center, has four dams, the fall being sixty feet in one-fourth of a mile. On the first, a grist mill; on the second, some twenty rods below, a shingle and jobbing mill, which runs some two-thirds of the time; on the third, a sash, door and blind factory; on the fourth and last, a saw mill, which cuts from 300,000 to 500,000 feet of boards, &c., during the year. Double the business might be done on this stream that there now is. In seasons like the present, there is water enough to run the mills the entire year. Pond one and one-half by three-fourths miles. The several mills are worth about $9,000; operate about three-fourths of the year.

The Juggernaut stream, at East Monmouth, has one dam, with a saw and shingle mill upon it. There is a most ample supply of water furnished by some eight or more ponds, of the Cobbosseecontee series. The dam might be raised so as to give some ten feet head and fall, with some damage for flowage, and then a large factory might be run the entire year.

The Blake wheel is chiefly used; a small amount of stone suitable for building; lay of the land, for building, quite good; no forests of importance. The mills are of a sort to employ few workmen, accordingly their influence upon the population is not great. Annual production, $125,000.

Market, all points, by rail.

MONROE—WALDO COUNTY.

Digested from Selectmen's Returns.

FIFTEEN POWERS.

First, "Willis' Mills," at Monroe mills, so called, on Marsh river, head and fall fifteen feet; wood and stone dam on ledge foundation; saw mill capable of cutting 400,000 lumber; and a shingle machine that would cut 800,000 shingles; grist mill, four runs of stones, two flour-bolts and cleanser. This is a good privilege for a small factory.

Second, a privilege on the same stream, one-half mile above the first; head and fall, ten feet, with saw mill, fulling mill and carding machine upon it.

Third, a privilege on the same stream, one-half mile above the second; saw mill, stave mill for cutting hardwood staves; ten feet head and fall. Dam built of wood, on a ledge foundation; a very pretty and safe water-power.

Fourth, two miles above the third, on the same stream, saw mill and shingle mill; fifteen feet head and fall. A plenty of lumber within a short distance. Several good reservoirs above the mill, in the town of Jackson, from two to three miles up the stream. Mill runs a large portion of the year, and does a very considerable business.

Fifth, a little below the fourth power, a fall of fifteen feet, in ten rods; unimproved. The above powers are all very safe, as respects freshets.

Sixth, "Thurlough Mill," on the outlet of Northern pond; has a good stone dam, eight feet high, at the head of the fall; water is taken from the pond to a point 120 feet below, where is a fall of eighteen feet. The water ponds back one and a half miles. Northern pond contains some seventy acres, and could be flowed so as to cover one hundred acres, by a dam at the outlet, eight feet high; also, another pond and bog might be flowed to cover some twenty-five acres or more; the dams would not be expensive. The ordinary capacity of this stream is sufficient to cut 200,000 of lumber per year. At present there is but little milling done at this privilege.

Seventh, ten rods below the Sixth, chance for a dam twelve feet

high; unimproved; also, other powers below, on the same stream; no details.

Eight, at the outlet of what is known as the Thomas Chase bog; stone dam eight feet high, which ponds the water over some hundred acres; two hundred of which are flowage, constituting a valuable reservoir. The bog lies in the north part of the town, and as a large part of the land on the southerly side of Dixmont hills is drained into it, there is a large amount of water in the stream in the course of the year. No mill business is done on the stream now.

Ninth, one mile below the eighth, a power upon which was formerly a saw mill.

Tenth, one-half mile farther down, a power upon which were formerly a saw mill, a lath, a shingle and stave mill.

Eleventh, "Mayo Mills," a first-class grist mill, twelve feet head and fall. The Dead brook, so-called, empties into the Emery Mills stream, one and a half miles above the Mayo mills, and affords quite an amount of water drawn from a pond and reservoir in the town of Swanville.

Twelfth, "Emery Mills Privilege," on the Emery Mills stream, near the centre of the town. This stream runs between two ledges in such a manner, that a dam could be built with but little expense, to raise a head of water fifteen feet at head of falls, and flow some thirty acres. Saw mill and stave mill for sawing hard-wood hogshead staves.

Thirteenth, twenty rods below, a dam could be raised to give a head of ten feet.

Fourteenth, in the next twenty rods below, a head and fall of forty feet, or more, could be secured. This is one of the best chances for a factory that can be found in the State; and flowing a bog a half mile above the falls, this would be very much such a water-power as that in the town of Dexter, where they have so many factories. It will be seen that in a distance of some forty rods there are from fifty-five to sixty feet head and fall. Years past, there was a grist mill here that operated the year round, and a few years since a pail factory; owned by Whitcomb & Webber.

Fifteenth, half a mile above the last, and at the outlet of what is known as Jones' bog; formerly a saw mill upon it. A suitable dam

at the outlet would raise a head of water ten feet, and flow some seven hundred acres.

With this reservoir in connection with several others in the town of Brooks, which are now used, machinery on the falls, twelfth to fifteenth inclusive, could be driven the year round, and would be one of the safest water-powers that could be found.

"The town would, undoubtedly, remit taxes upon capital invested here in the improvement of our water-power. The people, also, would be disposed to render direct aid. The town has paid all its own debts and is above board in all financial respects; this, in connection with our large water-power and opportunities for great reservoirs, make our facilities worthy the attention of manufacturers and capitalists."

Market, Bangor, Winterport, Bucksport, Searsport. "We hope for a railroad soon to Belfast."

Monson—Piscataquis County.

Digested from Selectmen's Returns.

"SEVERAL" POWERS.

First, on the outlet of Hebron pond, so-called, said pond being three by one miles. Several good water-powers upon this stream.

Second, a very good water-power at the outlet of Spectacle pond, where the water can be used several times.

Third, an excellent water-power in the southeast corner of the town, at Barrows' falls on the Piscataquis river.

The fall at each point mentioned is "sufficient for any practical purpose." No estimate of the power has ever been made, but a very great amount of work might be done. On the first named power there are a grist mill, two saw mills, and two shingle machines.

No damage from freshets except upon the Piscataquis river. Rocks, slate. The country mainly covered with forests.

Market, Bangor, fifty miles distant; Moosehead lake, fourteen miles; Newport, thirty-four miles.

Monticello—Aroostook County.

[See Appendix.]

MONTVILLE—WALDO COUNTY.

Digested from Returns of Ebenezer Knowlton.

TWO POWERS.

First and Second, "True's Mills," in the south part of the town; upper fall, ten feet; lower, seven feet; grist mill that will grind 15,000 bushels per annum; carding machine that will card 15,000 pounds wool; saw mill, stave mill and shingle mill that will cut 600,000 of lumber. Grist mill operates all the year; carding machine, five months; lower saw mill and stave machine, all the year.

Stream connected with three ponds whose area is not less than four square miles, and therefore quite uniform.

Granite abundant and good for building; lay of the land convenient; basin one-fourth covered with woods. The power has made seven-eighths of the business of the place. Annual product of the power, $150,000 to $200,000.

Market, Belfast, Camden and Rockland, by road.

MORRILL—WALDO COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

Three of the above are situated on the Sacasawakie stream. The fall upon two of the privileges is ten feet each, upon the other two, about nine feet each. They are improved in part by saw mills, shingle mills and stave mills; about 500,000 shingles and 200,000 boards are or can be cut at each mill yearly; mills operate six months in the year.

About half of the power is used. Atkins, Breast, and Tuttle wheels; Atkins considered best. One small pond; range from lowest to highest water on the stream, six to ten feet. One-half of the basin of the stream covered with woods.

Market, Belfast, by road.

MOSCOW—SOMERSET COUNTY.

Statement of the Selectmen.

[See also "Bingham and Moscow"; and "Moscow and Pleasant Ridge."]

NINETEEN POWERS.

First; the power at the falls of Austin stream, near the eastern

line of the town, is the most important that has ever been occupied, or attempted to be used, in this town. The height of the fall is 100 feet within a running distance of half a mile; current is very rapid; velocity has not been tested. No estimate of the power by measurement has ever been made. It is safe to say that it would saw many millions of lumber in a year. A dam has been constructed near the head of the falls, which flows the stream back more than two miles, creating a pond of a thousand or more acres. Saw, shingle, clapboard and planing mills were in operation here for a number of years, but a short time ago they were destroyed by fire, and have not since been rebuilt. Water enough all the year round. Owned by Wm. B. Snow. There is a pond on the north branch of this stream, nearly oval, about a mile in diameter, which has been temporarily dammed to form a reservoir, and has proved effective; at small expense it could be permanently dammed, and the water raised eight feet. There is another pond on the north branch, something like a mile long, where another reservoir could be created by a cheap dam at the outlet. On the south branch of this stream there are two large ponds, several miles each in circumference, where other reservoirs could be erected, giving an almost inexhaustible supply of water. There are also three considerable ponds on Heald stream, a branch of the Austin, which would serve a valuable purpose as feeders to this water-power. Freshets, of course, are heavy, when the melting snows come down in spring.

Rocks about the falls are a dark, hard slate. The lay of the land about the head of the falls is favorable for the erection of mills and dwellings; but at the foot, the land is rough and less favorable. Ninety-nine-hundredths of the basin are covered by forests.

Skowhegan, twenty-five miles distant, and the terminus of a railroad, may be regarded as our chief market for all the lumber of the town and vicinity.

Second to Thirteenth, inclusive; besides the power above named, there are at least a dozen localities on this stream, below the "Falls," where the stream might be tapped easily, by a canal, and an efficient and economical water-power created. The quick descent of the stream would very much facilitate the operation.

Fourteenth; Elijah Temple's saw, grist and shingle mills, together with Isaac Temple's lath mill and cart and wagon wheel fac-

tory, are situated on a small brook emptying into the Kennebec river. Mills run only in spring and fall. The fall of water is about fifty feet; turns out about 150,000 boards annually, and about the same amount of shingles. The pond contains some twenty-five acres, with opportunities for creating other reservoirs.

Fifteenth, "Basset's Shingle mill," on the eastern branch of Chase stream, 200,000 shingles annually.

Sixteenth, a few rods below, the stream falls some thirty feet in 200 rods. A series of artificial ponds, or reservoirs, could be created above, covering a hundred acres, with slight expense; country densely wooded.

Seventeenth; "Chase Mill," on Chase stream, near the centre of the town, is an old saw mill with a twelve foot fall. Chase pond, one-half a mile above, covers 200 acres, and a short dam at the foot of the pond would raise the water eight or ten feet. Another reservoir might be had by damming the little Baker pond, situated something like a mile above—and a mile in length. The country is all forest.

Eighteenth, at the Great falls, on this stream, below the above named site, the water falls forty feet; but it never has been improved.

Nineteenth, "Carney's Saw Mill," on Carney's brook, not far from the Kennebec river. The fall here is twelve feet in a running distance of ten rods. On the head of this stream, two and one-half miles distant, there are ponds, which with easily constructed dams, could be converted into reservoirs. One pond covers seventy-five acres, and the water could be raised six feet by a dam at the outlet; another smaller pond, of twenty-five acres, could be used in a similar manner at small expense; has capacity to saw 200,000 or 300,000 feet boards in a season. Nearly the whole area of the basin is covered with forests. The rocks are a hard slate, with veins of quartz, which yield small quantities of gold. Rose water-wheel.

Moscow and Pleasant Ridge—Somerset County.

Statement of the Selectmen of Moscow.

[See also "Moscow;" and "Bingham and Moscow."]

"SEVERAL" POWERS.

"The Kennebec river flows some eight miles between Moscow

and Pleasant Ridge, and in the distance there are several points where the river could be tapped by canals and the *whole volume of the river* used as for power purposes."

The powers thus indicated are, doubtless, large and valuable. Further information respecting these will be sought for the next report.

Mount Desert—Hancock County.

Digested from Selectmen's Returns.

FOUR POWERS.

All are situated on the Somes stream, so-called; height of the falls, thirty feet in fifty rods distance. No estimate of the power has ever been made. Proprietors would bear part of the expense of survey.

Power improved by mills; mills work about ten months of the year. The machinery is not economical of power; old-style flutter wheel, tub wheel, and Stearns' centre-vent.

The stream is connected with three ponds, the largest five by one-half miles; the others each three and one-fourth by one-half miles. The power could be increased very considerably, and is in fact sufficient for mills of any description, by using the best styles of wheel and machinery. Freshets harmless, the water being kept back by dams.

An excellent harbor at the place, and vessels can load and unload within ten rods of the outlet of the stream, nine or ten months of the year; for the other two or three months there is some obstruction by ice, but the place can at all seasons be approached by sea within five miles. Packets are plying continually between this point and Boston, Portland, etc., for nearly the whole year.

Mt. Vernon—Kennebec County.

Digested from Selectmen's Returns.

EIGHT POWERS.

First, the "Village Mills," on the Whitten stream, at the outlet of Flying pond; a grist mill, with three runs of stones, and cob cracker; a saw mill, with one up-and-down saw and four circular saws; a carriage and repair shop, with one circular saw and planer; a spade handle factory, with two circular saws and turning lathe

and a bark mill and tannery. These mills are on an excellent privilege, in the midst of a wealthy agricultural community, and will be, in all probability, good paying property for all coming time.

Second, one mile below on the same stream, on which are buildings suitable for a tannery. Here is unused water-power, with good facilities for building, which would pay well for a small investment.

Third, two miles below, on the stage road, the "Walton Privilege," at the outlet of Parker's pond, a large body of water, situate in the towns of Mt. Vernon, Fayette, Chesterville and Vienna. Here is a splendid privilege, with fifteen feet of head, an abundance of water in the driest time, building material and firewood, plenty and cheap, with an excellent site for a cotton or woollen mill, or other machinery, which can be bought for a fair price. On this privilege is a lumber mill containing one up-and-down saw, one clapboard machine, one shingle machine, with cutting-off saw, lath saw, picket saw, sapper, &c.

Fourth, some sixty rods below, is a large building, in which are a grist mill, containing three runs of stones, with cob-cracker, a planing mill and a boot and shoe box factory, operating three circular saws. The dam and buildings here are all nearly new.

Fifth; immediately below this point the Walton stream and Whitten stream unite and form Taylor's Mill stream; about one-half mile below the junction, where the stream empties into Crotched pond, is another privilege, where there are a saw mill and handle factory, with one up-and-down saw, seven circulars and lathe; a repair shop and pump factory, with two circulars and lathes, and a carding and clothing mill. Here is an abundance of water at all seasons, but there is some trouble by back water.

Sixth, on the Quimby stream, a grist mill, with two runs of stones, and water for about two-thirds of the year.

Seventh; on the same stream, one mile below, is a lumber mill, with one up-and-down saw and four circulars. The water here is all economized and the mill does a large business.

Eighth; on the Wing stream, below the outlet of Long pond, is a new lumber mill, has all the modern conveniences and improvements, and does a very large business; a great part of which is timber for railroad cars. Here is an unlimited amount of water for all purposes, a very beautiful site for building a first-rate, permanent

dam, and a plenty of available land, adjoining, for all purposes. There is some litigation in regard to the right of flowage, of the owners of this mill. If the owners succeed in maintaining the dam, as they confidently expect, this is one of the most desirable openings for capital that can be found in this part of the State. It is situate on the McGaffey road, ten miles from Augusta.

NAPLES—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, "Edes Falls," upon Crooked river, in the easterly part of the town. Power all taken up. Works all the year.

Whole fall in Crooked river, from top of dam at Edes falls to low water mark in Songo lock, 86·19 feet. Perpendicular height from top of dam to the mudsills of the old George Pierce dam, 19·22 feet.

The volume of water equals 1,593 inches, or 11·625 feet, flowing under a head of 9·5 feet; being equal, rejecting fractional estimate, to 110 horse-powers. This is at the mean flow of the river.

Second, "Chaplin's Mills," upon Muddy river. Power all taken up.

Third, "Symm's Mills," upon Muddy river; a dam; no other improvements.

Fourth, "Berry's Falls," upon Muddy river; a dam; no other improvements.

Fifth, "Songo Rips," upon Songo river; a dam; no other improvements.

Sixth, "Mitchel's Mills," at the outlet of Trickey pond. Power all improved. Works part of the year.

All the streams fed by ponds; Crooked river is very constant; not stated whether the capacity of the streams could be further increased by dams, or higher dams.

Rock, granite wholly, abundant and good.

Market, Portland, by road and Cumberland & Oxford Canal.

NEWBURGH—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

Falls known respectively as "Gillmore's," "Bickford's," "Adams'," and "Rogers'."

Improvements, one saw mill and shingle mill, fulling and cloth-dressing mill, two saw mills, and two shingle mills; locations not stated.

Height of the Falls.—Of Adams' falls, fifty feet in twelve rods; of the others, eight to sixteen feet in about the same distance.

Production.—300,000 feet lumber, 600,000 shingles, 8,000 lbs. wool, carded. Net earnings, including labor, about $1,500.

Power nearly all improved; works from four to six months.

Market, Bangor, Hampden, etc.

NEWCASTLE—LINCOLN COUNTY.

Digested from Selectmen's Returns.

[See also "Newcastle and Nobleboro'."]

SIX POWERS.

Two on Mill brook, and in time past have had two saw mills and one grist mill upon them; not now employed at all. The mills operated the greater part of the year.

Two upon Dyer's river; improvements, one saw mill, one shingle mill, and a match factory; mills operate most of the year.

Fifth, a tide-power at Sheepscot.

Sixth, grist mill and bark mill, upon Meadow brook, that operate about eight months of the year.

Market, Boston and Portland, by water. Abundant and good granite.

NEWFIELD—YORK COUNTY.

Digested from Selectmen's Returns.

[See also "Acton and Newfield"; "Newfield and Shapleigh."]

FIVE POWERS.

First, "Dam's Mills," on the Little Ossipee river. There are located at this place six mills and two shops for making carriages, sleighs, &c. Ten feet head and fall, and if the dam were suitably located there would be twelve feet.

Second, seventy rods above Dam's mills, the best privilege on the river; formerly a saw mill; not now improved.

Third; about thirty rods below Dam's mills are the "Ham Mills"; one grist mill and one carding mill; nine feet head and fall.

Fourth, saw mill and grist mill, in the western part of the town, on a small stream; water spring and fall. Ten feet head and fall.

Fifth, shingle and clapboard mill, on a small stream in the south-east part of the town; eleven feet head and fall. Water spring and fall.

NEWFIELD AND SHAPLEIGH—YORK COUNTY.

Digested from the Returns of Newfield and Shapleigh.

[See also "Newfield"; and "Shapleigh."]

THREE POWERS.

First, on the Little Ossipee river, head and fall eleven feet. "Hargrave's Woollen Mills," on the Shapleigh side; four sets machinery; manufacture cassimeres and flannels; annual production, $125,000. On the Newfield side, a good building, thirty by eighty feet, formerly used for iron work; not now used. About eighty horse-power.

Second, on the same river, about eighty rods below, "Twombly's Privilege," with fourteen feet fall. Formerly a grist mill and saw mill, on the Newfield side; not occupied, except by a shingle mill. Owned by the Paper Mill Company.

Third, Newfield Paper Company's privilege, fifty rods below Twombly's, eighteen feet head and fall; stone dam twelve feet; mill thirty by eighty feet, with wings thirty by fifty feet; manufacture leather board for inside soles, ton a day; $45,000 per annum.

Stream very constant; Balch pond at the source, with ten feet head, commanded by a dam.

NEWCASTLE AND NOBLEBORO'—LINCOLN COUNTY.

From the Statement of the Boards of Selectmen.

See also "Newcastle"; and "Nobleboro."]

ONE POWER.

"Damariscotta Fresh-water Falls," at the outlet of Damariscotta pond; height fifty-two feet in twenty rods. The stream is twenty-two feet wide and 2·5 feet deep.

The power is estimated equal to carrying 40,000 spindles in the driest time. It now operates two saw mills, two grist mills, and a match-splint factory, the year through. The machinery is all old-fashioned.

The pond is fourteen miles long and averages half a mile in width. It is already improved as a reservoir and is capable of higher improvement. The power is entirely unaffected by freshets. Granite, in the vicinity, suitable for building. This is a most admirable site for a cotton factory.

New Gloucester—Cumberland County.

Digested from Selectmen's Returns.

NINE POWERS, OR MORE.

Eight of the above are situated on Royal's river, and all within a running distance of one-fourth of a mile; total descent, fifty feet.

The power is only partially improved, in mills; their character not stated; centre-vent wheels employed.

Some small ponds are connected with the stream which can be used for reservoirs. The improvement of the power has operated favorably for the wealth of the town.

Market, Portland and Lewiston, by rail.

One power on Lovewell's brook.

New Limerick—Aroostook County.

Digested from Selectmen's Returns.

NINE POWERS.

Six of the above are situated on the north fork of the south branch of the Meduxnakeag river.

First, twelve feet head and fall; saw mill.

Second, at the foot of Berry's lake, so-called; ten feet head and fall; shingle machine, with power to drive a great amount of machinery.

Third, Fourth, Fifth and Sixth, situated below upon the same stream, all of them capable of doing good service with any kind of machinery.

Seventh, Eighth and Ninth, on the south fork of the Meduxnakeag stream, supported by Drew's lake, 2000 acres; dam at the outlet can be raised four feet without damage. On the Seventh

are a saw mill, shingle machine, lath machine; an excellent privilege; lime quarry close at hand. The Eighth is not occupied. The Ninth is a good privilege for small machinery.

Enormous quantities of timber in all the region. Granite sufficient for building. Excellent limestone. Overshot wheels used on all the privileges

NEWPORT—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, on the Stetson stream; saw mill and shingle mill.

Second, on the Milliken stream; saw mill and shingle mill.

Third, by far the most important, the "Newport Village Power," at the outlet of Newport pond; fall fourteen feet in seventy-eight rods distance. It is improved in part, in a flour mill, saw and shingle mills The power was formerly wholly used by a tannery and foundry. The power can operate all the year, though it is not now generally used throughout the year. If wholly improved it will saw 5,000,000 of lumber, and manufacture 5,000 barrels of flour annually.

Wheels, turbine, tub and Gould. The power is sustained by the Newport pond, which covers eight or nine square miles. Dam now raises a head of four feet on the pond; can be raised still higher; entire safety from freshets; no damage has ever been done; granite abundant and good; lay of the land convenient for improvement; basin one-fourth wooded. The power, though inadequately improved, has built up a flourishing village; annual production, $75,000.

Market, Portland, Lewiston, etc., by Maine Central Railroad; junction of said road with the Dexter and Newport Railroad, is at this point.

NEW PORTLAND—SOMERSET COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, "Gilman Stream Falls," would carry a saw mill, shingle mill, grist mill, with three runs of stones, all the year; one saw and shingle mill, carding and fulling mill, planing machine, circular saws, etc., now upon it.

Second, New Portland falls, on Carrabasset stream, would do as much as the above; saw and shingle mill, threshing machine.

Third, Fourth and Fifth, on Limon stream, would each do about half as much as either of the above; saw mill, shovel handle factory and shingle machine upon one; grist mill, carding and clothing mill, upon another; saw and shingle mill, clover seed mill and threshing machine, upon the third.

Gilman stream privilege operates all the year; the others about half; undershot and centre-vent wheels; Gilman and Limon streams connected with ponds; as Gilman pond, four by one-fourth miles; Porter pond, two by one miles; Libby pond, one by one-half miles. The latter could be made a reservoir at little expense.

Freshets, on the Carrabasset ten to fifteen feet—have been destructive; the Gilman stream is quite constant. Rock, granite and slate; two-thirds to three-fourths of the basin of the streams covered with woods. The powers have increased the wealth of the town one-third or one-half.

Market, Skowhegan and Farmington.

Newry—Oxford County.

Digested from Selectmen's Returns.

THREE POWERS.

First, on Bear river; fall sufficient for a large overshot wheel; grist mill upon it, owned by Alden Mardin.

Second, on the east branch of Bear river; a saw mill.

Third, on Sunday river; mill, dam.

Streams subject to freshets, being fed by mountain streamlets, and not by lakes or ponds. Several millions of spruce lumber near the water-powers on both streams.

Market, Bethel Hill, ten miles distant; a good road.

Rocks, granite, and the town ledgy for a considerable part. Amount of business, far less than might be with the power.

New Sharon—Franklin County.

Digested from Selectmen's Returns.

"SEVERAL" POWERS.

First, "New Sharon Falls," on Sandy river, at New Sharon village; head and fall, ten feet. Volume of water stated to be

2,722 inches under the head and fall. The mills now in use are estimated to require 150 horse-power. With a tight dam the available power would probably be nearly or quite twice greater. On the south side of the river there is an interval, which would be an excellent site for mills, much better than the north side, on which they now stand.

Improvements.—A dam in poor order, a saw mill, grist mill, shingle machine, chair factory and machine shop. Wheels employed, Kendall and Tuttle.

Second, "Lower Falls," situated below the Village falls, vastly superior in every respect. The lay of the land hereabout most excellent for the location of bridge, mills, dwellings, etc., far better than at the upper site. This power is totally unimproved.

Third, Fourth, etc.; there are several falls below the Second, of considerable height, with convenient locations for building; none of them improved.

There are a great number of lakes and ponds connected with the Sandy river, though none in the immediate vicinity. Artificial reservoirs, if required, could be constructed without large expense. No damage from freshets when the dam is in proper order.

Sixth, "Weeks' Mill, on Muddy brook, a considerable stream, issuing from a pond in Industry, which covers 2·5 to 3 square miles; saw mill.

Seventh, Eighth, etc., on Muddy brook; none of them employed.

Rock, gneiss, slate, and an inferior limestone.

Market,—"We are about five miles from the railroad station at Farmington."

A strong desire expressed for a survey of the power, and a disposition to pay part or the whole of the expense.

New Vineyard—Franklin County.

Digested from Selectmen's Returns, and a Partial Survey under their Direction.

TWENTY POWERS, AND MORE.

Six, of the principal powers, are situated on the outlet stream of Porter's pond, near the centre of the town, and are in successful operation.

First, at the outlet of the pond; head and fall, ten feet.

Second, twenty rods below; head and fall, eight feet.

Third, one mile below, at the village; head and fall, nine feet.

Fourth, one hundred rods below; head and fall, nine feet.

Fifth, one-half mile below the third; head and fall, twelve feet.

Sixth, one and a quarter miles below the village; head and fall, twelve feet. The back water of each power, except No. 5, at high water, extends to the power above; (No. 5 may be easily raised to No. 4); so that the whole stream is converted into a series of falls and reservoirs.

Seventh and Eighth, "at the village, coming down from the mountain," No. 7 used for tannery; fall twenty-five feet in six rods. Head and fall on the Eighth, forty feet in seven rods; volume of water four inches square to twelve inches square, common height.

Ninth and Tenth, not now in successful operation, and not surveyed.

Eleventh, on the Barker brook; twelve feet head and fall.

Twelfth, on the Hillman Mill stream; both in the southwestern part of the town, and both streams tributary to the Fairbanks mill stream. Head on the twelfth, seventeen feet; fall nineteen feet in two rods.

Thirteenth, on the Fairbanks Mill stream, on the county road.

Fourteenth, on the outlet of a meadow of considerable extent.

Fifteenth, Sixteenth, Seventeenth and Eighteenth, below No. 14, and within three-fourths of a mile of it.

Nineteenth, on the McLerry mill stream.

Power No. 1, at the outlet of the pond, will run the saw mill upon it three-fourths of the year. Power No. 3, at the village, runs saw mill two months in the year, and the grist mill during the year. Nos. 2, 4, 5 and 6, though having more water, run only as the business requires. None of the powers in operation are fully improved; much water runs to waste.

The Bow wheel used at power No. 1, and does one-fourth more work than the old paddle wheel formerly used; the other powers use the centre-vent wheel chiefly.

Porter's pond is 640 acres in extent, and the flowage around is secured to the original proprietor; no additional reservoirs, of much extent, could be constructed. The capacity of the pond could be

increased by raising the dam at the upper mill, so as to elevate the whole suface four feet higher than it now is, at an expense of $600.

At No. 14, a meadow could be flowed 200 acres in extent, for $200; and Nos. 15, 16, 17 and 18, are on the same stream, and within three-fourths of a mile. All the other powers on this stream would have small reservoirs.

All the powers are safe as to freshets, except No. 13; all except 1, 2, 3, 4, 5, 6 and 13, would be inconstant, and would run machinery only three to nine months in the year.

Outcropping and underlying rocks, granite boulders and limestone. Nos. 14, 15, 16, 17 and 18, have good facilities for building stone dams. Considerable forest and timber.

The effect of the improvement of the water-powers in operation, has been to furnish building material, employment to machinery, and to increase the ease and comforts of living.

Market, Farmington, four to eleven miles distant from the powers.

NOBLEBORO'—LINCOLN COUNTY.

Digested from Selectmen's Returns.

[See also "Newcastle and Nobleboro'."]

THREE POWERS.

First, on Oyster creek; no specifications.

Second, on Winslow's stream; no specifications.

Third, on Jones' stream; no specifications.

NORRIDGEWOCK—SOMERSET COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Bombazee Rips," on the Kennebec river, three miles above Norridgewock bridge; fall, six feet in two rods, or about ten feet in one-fourth of a mile; power estimated variously, as equal to running thirty saws, or to sawing 4,000,000 of lumber. "It is a great privilege." No part of the power is used.

Second, "Sawtelle's Mills," at the mouth of Sawtelle's mill stream, in South Norridgewock; fall ten feet in twenty rods; power estimated sufficient to grind 16,000 bushels of grain, and saw some 200,000 feet of lumber; has a saw mill and grist mill upon it.

The grist mill operates all the year; the saw mill all but winters. Occasional suspensions of both in very severe drouths.

The improvement of the power has had a marked influence, though variously estimated; as having built up a village of 300 inhabitants; as having increased the value of real estate in the vicinity twenty-five per cent.; as having resulted in a gross increase of property of $75,000.

Market, Skowhegan and railroad, five miles distant, by road; and supplying lumber operators.

Freshets are stated to increase the volume of the stream tenfold; *which* stream is referred to, does not appear. Total range from low to high water, twenty-five feet. Three insufficient bridges have been carried away. Bombazee Rips always average a foot, at least, on the fall.

If the volume of water of the Kennebec, at low run, be assumed thirty-eight per cent. less than at Augusta, or 108,800 cubic feet per minute, the power on the ten foot fall is 2,004 horse-powers gross, Augusta being 5,000.

North Berwick—York County.

Digested from Selectmen's Returns.

TEN POWERS.

Eight of the above, are situated upon the Great Works river, and two upon the Negutaquis river. They vary in height from ten to thirty-five feet, in a distance of ten to twenty-five rods.

The power is not all improved. Partially improved in saw mills, grist mills, etc., and one cotton factory. The mills operate nearly all the year; the machinery employed is, in part, very good; turbine wheels used.

Power is owned by the North Berwick Company and others.

The main stream is connected with one pond which contains from two to three square miles. Artificial reservoirs not feasible.

Rocks not suitable for building; excessively hard; lay of the land, about the falls, good.

One-third of the basin of the stream covered with forests. The improvement of the power has been of decided advantage to the wealth of the town.

Market, Portland, Boston, by Railroad.

NORTHFIELD—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First and Second, "Holmes' Falls," on the Machias river, which consist of two rapids about half a mile from each other, the upper having a fall of fifteen feet, the lower of thirteen feet; each capable of propelling machinery equivalent to eight saws for manufacturing lumber.

Third, "Black Cow Meadow Rips," on Bog stream, which has a fall of thirteen feet. The source of the water is Bog lake, 1,000 acres in extent, and affording power for two saws the year round.

Fourth, a privilege on Bog stream near its exit from the lake, on which are a mill with a single saw, and a lath and shingle mill. With a suitable wheel this power will operate the season through.

None of the privileges above mentioned are put to use except the Third. The occupation of the Black Cow Meadow Rips is now under contemplation.

Other points are noted as having power, "Dick's Falls," "College Rips," and "Brown's Rips."

NORTH HAVEN—KNOX COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, a saw mill and grist mill on a salt water and tide stream, known as Luce's stream.

Second, at the outlet of Beaver pond; by the construction of a dam, a fall of ten feet could be secured, without serious flowage of the surrounding farming land, and a power of local value produced.

Market, Rockland, twelve miles distant, by sea.

NORTHPORT—WALDO COUNTY.

[See Appendix.]

NORTH YARMOUTH—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Porter's Mills," on Royal's river.

Second, "Masters' Mills," on the east branch of Royal's river.

The power is sufficient to drive a saw and two runs of stones the year round.

Market, Portland.

NORWAY—OXFORD COUNTY.

Digested from Selectmen's Returns.

TEN POWERS.

The "Pennassawassa Falls," situated on the outlet stream of Pennassawassa pond, in Norway village, and in the southeast corner of the town, embrace and constitute six of the above. Total fall seventy-six feet in one mile.

First power, reckoning from the outlet of the pond, "Bennett's Mills"; fall, thirteen feet; a saw mill, shingle mill, and flouring mill.

Second power, "Pennassawassa mills"; fall, eleven feet; a two set woollen mill, a carding and cloth-dressing mill, (independent of the others, for custom work), and machine shop.

Third power, no improvement except dam; fifteen feet fall.

Fourth power, height of fall, fifteen feet; a grist mill, plaster mill, shingle mill, carding mill and job shop.

Fifth power, seven feet fall; no improvement, except a dam.

Sixth power, fall, fifteen feet; saw and planing mill, a kit factory, with shingle and clapboard machine.

In addition to the above, between the second and third dams, is a fall of four feet, which can be made available only by flowing the meadows west of, and contiguous to the village. The last named four powers are called "Steep Falls," and are all within a horizontal distance of fifteen rods.

Volume of water, with eleven feet head on the second dam; the supply is sufficient to supply four feet square, (sixteen square feet), of water for thirteen hours per day, throughout the year.

The foregoing powers work all the year; the ponds, three in number, connected with the stream have an aggregate surface of 2,500 acres, upon which a good depth of water can be commanded.

The second power and mills are owned by a large number of different owners. Machinery generally good; wheels running, centrevent; one overshot wheel on the fourth dam.

Freshets entirely indestructive when the dams are kept in order;

total range of water four feet, or thereabout; supply constant, even when all other powers in a radius of sixteen miles, have failed.

Seventh, at the outlet of North pond, in the northeast corner of the town, with constant supply of water and a fall of twelve feet.

Eighth, Ninth and Tenth, situated upon small streams in different parts of the town, with saw mills upon them, and sufficient water for use during three or four months of the year.

Market, Portland and Boston; station of the Grand Trunk Railway distant one mile at South Paris.

OLDTOWN—PENOBSCOT COUNTY.

Statement of John W. Veazie, Esq., of Bangor.

[See Appendix.]

In reply to yours of the 11th December, in regard to the water-power of Oldtown, I submit the following statement:

The mills on Oldtown falls belonging to my father, contain five gangs of saws, fourteen single saws, four lath mills, two clapboard mills, and three shingle mills. When all are running, the area of discharge is equal to 17,242 square inches, all pressure wheels, and the actual discharge is fully three times this amount. The average head of water is about nine feet. In spring freshets there is often a seventeen foot head, and in the very low water of summer, not over six feet. I regard the power of these falls equal to 560 horse-power, average pressure.

ORIENT—AROOSTOOK COUNTY.

[See Appendix.]

ORLAND—HANCOCK COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS.

First, at head of tide on the Eastern river; a substantial granite dam; head twelve feet, ponding the water back two miles to the outlet of Alamoosuc pond.

Second, "Alamoosuc Falls," at the outlet of Alamoosuc pond, a most excellent privilege; head and fall about twenty feet; water abundant throughout the year. The pond contains 1,200 acres,—is fed by two small streams, one large one, and by large and small ponds.

Third, on the ——— branch; a saw mill, bedstead factory, etc.; fall about eighteen feet.

Fourth, on Meadow brook; saw mill, operating a small part of the year.

Fifth, "Toddy Pond Falls," on the outlet stream of Toddy pond, between Toddy and Alamoosuc ponds; total fall, about 150 feet in a horizontal distance of 150 rods. The stream is narrow and the banks high. "The pond is about nine miles long and three-fourths of a mile wide, covers about 5,000 acres, and drains about 51,000 acres. The site is deemed a most excellent one for factories."

No specifications in regard to the other powers.

The ponds can all be cheaply improved for reservoirs, their mouths being narrow. Artificial reservoirs of large capacity can be formed, if needed. Freshets entirely harmless, owing to the lakes and ponds. A very insignificant portion of the power now used. Annual product about $50,000. Rocks suitable for building purposes; lay of the land, about the falls, most excellent.

The power is eminently accessible, the first dam being, as before stated, at the head of tide. Proprietors would aid in a thorough survey of the power.

Orneville—Piscataquis County.

[See Appendix.]

Orono—Penobscot County.

Digested from the Returns of N. Wilson, Esq.

FIVE POWERS.

First, the "Upper Stillwater Dam," on the western *chute*, or channel, of the Penobscot river, which here is divided and broken by large islands; said channel is called the Stillwater river, and is fed by Pushaw river, the outlet of the great Pushaw lake.

Second, the "Lower Stillwater Dam," upon the same river. Total head upon these two dams, sixteen to twenty-two feet.

Improvements; upon these two dams are now twenty-two single saws, ten gangs, five rotary saws; twelve lath, three shingle, and four clapboard mills; also two planing machines, one machine-shop and one grist mill, and ample space and power for more.

Third, "Ayer's Falls," on the chute, or channel, of the Penobscot, lying betwixt Ayer's island and the right bank of the river. The mills upon this privilege are called the "Basin Mills." Head, nine to fourteen feet. The total *fall* from Hammett's mill, (so-called,) to the foot of Ayer's island, is 31 58 feet.

This power commands the entire volume of the Penobscot, by means of a low dam extending from the head of Ayer's island to the left bank of the main river, which, at low water directs the whole current down the channel aforesaid.

Improvements; eight single saws, four gangs, two lath, two clapboard, one shingle, two rotary saws and a machine-shop.

This privilege is unsurpassed in respect to its combined advantages for mills, cheapness of dams, security from freshets, and amount of power. Chief owner, Gen. Samuel Veazie.

Fourth, "The Stillwater Canal Power"; by means of a canal leading from the Stillwater channel above the upper dam, to the "Basin," a vast amount of power would be made available, as the water could be used several times over.

Fifth, "The Basin Canal Power"; a canal extending from the Basin down the right bank of the river two miles, and conveying, as it might, the total volume of the Penobscot, would afford privileges for mills and factories its whole length, totally secure from ice or freshets. The improvements upon the three privileges, as above set forth, consume but a small part of the available power.

The mills operate, for the most part, only from April to December. Total annual production, 65,000,000 feet of lumber, besides laths, clapboards and shingles.

Market, Bangor, seven miles distant, by canal, by the river, and now, or soon, by the European and North American railway.

Population of Orono, 3,300; three churches; the best of public schools, and excellent society. The State College of Agriculture and Mechanic Arts, is located here, about one mile from the village, on the east bank of the Stillwater river, in a beautiful and commanding situation.

ORRINGTON—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

All are situated on Segeunkedunk stream, the outlet of Orrington Great pond, and a tributary of the Penobscot river.

The "Fall at East Orrington," is the most important, being about sixteen feet; upon the other privileges is from eight to twelve feet. The upper fall is backed by about two miles of dead water; the other powers by from one-fourth to three-fourths of a mile; water very quick.

The best privilege runs two saws through the year; No. 2, a tannery; Nos. 3 and 4, grist mills, and will grind an indefinite amount. Four only of the privileges are improved; smallest are unimproved. The mills operate all the year, except in very dry seasons, when a month is sometimes lost. The powers are all owned in Brewer and Orrington.

The stream is connected with two ponds; Great pond, eight square miles; Field's pond, four square miles. There is a dam at the outlet of Great pond, and if this were in good repair, the water would be ample to run all the mills all the year, however severe the drouth. Stream steady; freshets in spring about five times ordinary volume; no damage, to any amount, has ever occurred.

The falls are protected with ledge, but rock is not sufficient in the immediate neighborhood for extensive building. The lay of the land is excellent in every locality.

The improvement of No. 1, was the up-building of the eastern portion of our town; No. 2, has had a similar effect; and both together have increased our population and wealth ten per cent.

Market, great local market, lumber shipped at Brewer village and Orrington, by hauling one and a half miles; produce, at Bangor, by road, two miles.

Power No. 1, at East Orrington, which is superior to the others, is well situated in the centre of the village, and within three rods of the road, which is easy of access from the mill at all times. It is a *natural* site for a mill, and the power is sufficient to run a large factory, and almost any amount of other machinery. It is considered one of the best locations for the investment of capital, with profit, that there is in the State.

The other powers, between East Orrington and Brewer village, are excellent; grinding forty bushels of corn per hour, at a single run of stones. To any party wishing to build a cotton factory, the privilege at East Orrington offers peculiar temptations, both by its *natural* location and the short distance of transportation.

Otis—Hancock County.

Digested from Selectmen's Returns.

SIX POWERS.

First, "Remick's Falls," at the foot of Flood's pond; descent seventy-five feet in twenty rods. Clapboard and shingle mill, cutting 2,000,000 shingles, 100,000 clapboards; mill works all the year; machinery not of the best construction. Not one-fourth part of the power employed.

Second, half a mile below Remick's falls, a saw mill, capable of running all the year, but not now in use for lack of repairs.

Third, one mile further down the stream, a shingle and clapboard machine; cuts about the same as the first mentioned. This power is all improved.

Fourth, a power at the outlet of Springy pond, formed by dams which raise the surface of the pond. A shingle machine upon it, capable of running half the year; the dam now out of repair, and the power, therefore, not in use.

Fifth, a power at the foot of Beach Hill pond, with a saw mill which cuts about 500,000 long lumber, board measure, per annum. The fall is twenty feet in thirty rods; the power is about half improved.

Sixth, at the foot of Mountain pond, height of fall same as the above. A shingle and clapboard mill, capable of running all the year, and of cutting 1,500,000 shingles and 100,000 clapboards.

Market, Ellsworth and Bangor. Ample room and power for other mills and factories, on the above privileges. Centre-vent wheel employed.

Otisfield—Oxford County.

[See Appendix.]

PALERMO—WALDO COUNTY.

Digested from Selectmen's Returns.

TEN POWERS, OR MORE.

First, "Marden's stave and shingle mill," in the northeast part of the town; power sufficient to drive two runs of stones eight months of the year.

Second and Third, on Little river; tributary to the Sheepscot river.

Fourth, on the main Sheepscot river; stream is judged to fall about eighteen inches to the rod, for fifteen rods; dam broken, mills in decay. The power is sufficient to drive four runs of stones nearly, or quite, all the year; stream fed by ten, or more, ponds. The privilege is about one-quarter of a mile below Sheepscot Great pond; three by one miles; stream ranges from six to eight feet, from lowest to highest water. The lakes can be improved readily for reservoirs.

Fifth and Sixth, on a tributary, on the West Branch of the Sheepscot; saw mill and shingle mill.

The other powers are not specified.

One-half of the basin of the stream covered with woods; granite, in the form of boulders; flint rock, and a sort of sandstone.

Market, Belfast, Rockland, and Augusta, by road.

PALMYRA—SOMERSET COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, at the outlet of White's pond, on Village Mill stream; occupied by Elisha W. Shaw; the real owner not known; a shingle machine operates from four to six months.

Second, on Madawaska stream, owned and occupied by Nay & Runnels; saw mill and shingle machine; operates from four to six months.

Third, on Indian stream; upon it a building once used for a peg-factory, now unoccupied; a circular saw on the other side of the stream; operates eight or ten months.

PARIS—OXFORD COUNTY.

Returns of S. P. Maxim, Esq., Selectman.

TWELVE POWERS.

First, "South Paris Water-Power," located on Little Androscoggin river. Improvements; one flouring mill, one saw mill, including shingle machine, planer, and machinery for the manufacture of barrels; owned by Charles Bailey & Co.; annual production, estimated, 15,000 barrels flour; capacity, 20,000 barrels; now grinding 700 bushels of wheat every twenty-four hours. Saw mill, estimated annual production, 100,000 feet boards, 100,000 shingles, and materials for 15,000 barrels. Power all used, except in periods of high water. A deficiency, usually, in mid-summer.

Second, "West Paris Water-Power," on Little Androscoggin river. Improvements; one flouring-mill, owned by Andrews & Dean; annual production, estimated at 3,000 barrels flour.

Third, "Willis' Mill Water-Power," on Little Androscoggin river, a saw and shingle mill, owned by Willis Brothers; annual production, estimated, 75,000 feet of boards, and 75,000 shingles.

Fourth, "Barnes' Mill Water-Power," on Little Androscoggin river, three-fourths of a mile south of West Paris station; one saw mill owned by P. C. Fickett; capacity of annual production, estimated, 100,000 feet of boards.

Fifth, "Snow's Falls Water-Power," located on Little Androscoggin river. Improvements; one furniture manufactory, owned by S. L. Howard; capacity, estimated equal to the production of 3,000 barrels flour.

Sixth, "Jackson's Mill Water-Power," located on Little Androscoggin river. Improvements, one saw and grist mill, with shingle machine, and stave mill; owned by I. H. Jackson. Capacity, estimated, equal to annual production of 3,000 barrels of flour.

Seventh, "North Paris Water-Power," located on Moose-Pond stream. Improvements; one grist mill, owned by E. W. Murdock; annual production, estimated, 1,000 barrels flour.

Eighth, one-fourth mile below the foregoing, located on Moose-Pond stream. Improvements; one saw mill, one shingle mill, owned by Ira Bartlett. Annual production, estimated, at 50,000 feet of boards, and 50,000 shingles.

Ninth, "Iron Foundry Water Power," located on Stony brook,

near its outlet into the Androscoggin at South Paris. Foundry and machine shop, owned by F. C. Merrill & Co. Capacity, estimated, equal to the production of 500 barrels flour.

Tenth, "Royal's Mill Water-Power," located on Stony brook; one grist mill, one carriage shop, owned by Wm. Royal. Production, estimated, 500 barrels flour.

Eleventh, "King's Mill Water-Power," located on Stony brook. Improvements; one saw mill, including shingle machine, and "Dead-Eye" machine, owned by S. M. King. Annual production, estimated, 50,000 feet of boards, and 100,000 shingles.

Twelfth, "Hammond's Mill Water-Power," located on Smith brook; one saw mill, owned by M. Hammond; annual product, 50,000 feet of boards.

The aggregate annual production of all the powers enumerated above, is 26,000 barrels flour; 400,000 feet of boards, 200,000 shingles.

The proportion of forest is estimated at one-sixth; but little old-growth forest left. The market connections are at Paris Hill, South Paris, West Paris, North Paris and Snow's falls; principally at Grand Trunk stations at South Paris and West Paris.

The elevation of Paris Hill above the sea-board, as measured by C. L. Jackson, is 831 feet.

PARKMAN—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Cumming's Brook," head and fall (with a dam eight feet high) of twenty-four feet, with water for about four months in the year. Its capacity could be doubled by the construction of two dams above.

Second, "Pingree's Mills," on Mill Stream, with a shingle mill upon it; formerly a grist mill and saw mill, also. Works only about four months in the year. Power situated near the centre of the town.

Third, "Holbrook's Mills"; saw mill operating four saws; grist mill running about six months. Capacity of the above two powers might be doubled by a cheap dam, which would flow a very large bog. Power situated near the centre of the town.

Fourth, "Pease Mills," on the south branch of the Piscataquis river; a good power with a good dam; saw mill and shingle mill recently burned. Sometimes a lack of water, but at a trifling outlay a lake two miles above might be converted into a reservoir and ample water secured all the year. Situated in the northwest corner of the town.

"Good roads to all the powers, and a good farming town."

PARSONSFIELD—YORK COUNTY.

Digested from the Returns of the Selectmen.

[See also "Parsonsfield and Porter."]

FOUR POWERS.

These are all small; are situated upon brooks which are supplied by Long, Spruce, and Mudgett ponds. Three of the powers are occupied by mills.

PARSONSFIELD—YORK COUNTY, AND PORTER—OXFORD COUNTY.

From the Returns of Parsonsfield and Porter.

[See also "Parsonsfield"; and "Porter."]

THREE POWERS.

All are situated on Great Ossipee river, the outlet of Great Ossipee pond.

First, "Keazar Falls"; total height of the fall fifty feet, attained within the running distance of one mile. No estimate of the power, by measurement, has ever been made; one perpendicular saw will cut 1,000,000 feet lumber annually; a part of the power is improved as follows: one planing machine; one stave machine; one shingle machine; one bobbin factory; one grist mill; one saw mill; two dams.

All the mills and machines work the whole year. Dry times do not interfere with the working of the machinery, as there is an abundance of water at all times. The volume of water might be somewhat increased by further improvement of the reservoirs. Centre-vent and spiral-vent wheels are used wholly; considered best. Power owned by Moses Sweat, A. P. Benton, and others.

The bed of the stream, at the falls, is very stony and many large rocks are found; but of a quality not suitable for building purposes. In the vicinity of the falls, however, granite is found in quantity

sufficient for all buildings which may be erected. The river flows in an easterly direction; the southern shore is a gradual slope to the river the entire length of the falls, which gives an excellent location for mills or shops. The northern shore descends to the river by a steep bank, the greater part of the length of the falls, and would be a good location for mills. The river is very constant. In dry seasons all other mills in this section are obliged to suspend operation, while the machinery on this stream runs with the same regularity and power as at any other time; and during such periods receives the patronage of people at a great distance; not improved on the Porter side.

Second, "French's Falls," above Kezar falls; fall nine feet; not improved.

Third, "South River Falls," above French's falls, descent eight feet; not improved.

The river, at the above sites, about 200 feet wide.

In freshets the volume is sometimes nearly doubled, though generally increased one-third. One dam and two bridges have been swept away, but no mills have ever been damaged by freshets; ordinary rains have but little or no effect upon the stream. The country not being very mountainous, the stream rises and falls slowly. Total range from low to high water three to five feet.

Passadumkeag—Penobscot County.

Statement of Selectmen.

There is no water power in this town.

Patten—Penobscot County.

Digested from Selectmen's Returns.

FOUR POWERS.

The principal and only reliable water power in Patten is on "Fish Stream," an affluent of the Mattawamkeag river.

First, the "Upper Dam," giving twelve feet head, is occupied by a saw mill, planing mill, &c. Sufficient water for the saw mill for about four months in the year. The mill cuts about 200,000 of boards annually; a clapboard machine in the same mill manufactures about 30,000 clapboards annually.

Second, the "Lower Dam," occupied by a grist mill; head, twelve feet, carrying two runs of stones and four bolts. There is sufficient water to carry the mill about eight months only of the year, on an average.

Third, on the "Hersey Brook," a grist mill. Height of fall, twenty-two feet. Mill carried by an overshot wheel eighteen feet in diameter. Two runs of stones, one flour bolt. Sufficient water for this mill about four months in the year.

PEMBROKE—WASHINGTON COUNTY.

[See Appendix.]

PENOBSCOT—HANCOCK COUNTY.

Digested from Selectmen's Statement.

EIGHT POWERS, AND MORE.

Situated as follows: upon Wardwell's Stream, Winslow's Stream, and South Bay Meadow Dam. Wardwell's Stream is fed by Pierce's pond, which is circular, half a mile in diameter and half a mile from tide water. Three falls on said stream, which have been improved, all but one have been abandoned for want of lumber.

First, the power nearest the pond, used to drive a single saw and a grist mill with two runs of stones, stave, lath and shingle machines. The saw mill is driven by an an old-fashioned paddle wheel; the grist mill and other machinery by a breast wheel, with ten feet head. Can be worked six months of the year. The saw mill does but little business for want of logs; the stave machine has cut 600,000 staves the present year.

Second, below the first, has been used for a carding and clothing mill, which was driven by an overshot wheel fifteen feet in diameter. The fall is obtained by carrying the water eight rods horizontally; does no business at present.

No information given respecting the third power on Wardwell's Stream.

Building material may be obtained handily. Granite in abundance on the premises; bricks are manufactured within fifty rods of either power. Vessels of 200 tons burthen come within one mile; small vessels and scows come to the brick yard, within fifty rods.—The dam at Pierce's pond is ninety feet long. The pond might be raised to any height by building the dam higher.

Fourth, Winslow's stream, is about six miles long from tide water to the head of Wight's pond, so called, by which said stream is fed. The area of said pond is about seventy-five acres. At its foot there is a power used to drive a single saw and grist mill. Ten feet fall is obtained by building a dam sixty feet long and six feet high in the middle. The owners of said power do not have the right to flow the meadows after the 15th of May until they have been cut. More fall might be easily obtained if needed. A good dam and the right to flow the meadows would insure a constant supply of water the whole year sufficient to drive a saw mill with the old uneconomical wheel.

Fifth, on the same stream, within fifty rods of tide water, used only to drive a shingle machine. Fifteen feet fall could easily be obtained. If the meadows were flowed as noted before, this would be a valuable power with a constant supply of water for the year. The location is convenient for mills and work shops. It is within ten rods of the stage road. Vessels of 200 tons burthen have been built within fifty rods of said power. Plenty of granite suitable for building within 100 rods. The quarry has been worked.

Sixth, etc., other powers on said stream have been improved in years gone by, but the lumber has been cut off, and for the want of capital and experience in other manufacture than lumber, they are and remain unimproved.

Eighth, "South Bay Meadow Dam," is situated on the Bagaduce river, five miles by the course of the river above Castine. A company was incorporated by the name of the South Bay Meadow Dam Company, with power to build a dam across said river for the purpose of draining the river above the dam to make meadow for the cultivation of hay. The river extends five miles above said dam with an average width of eighty rods. The company built a stone dam across said river on the head of a fall where the river is about fifteen rods wide with a fall of ten feet in five rods horizontal distance. Said dam has a passage through it twenty-six feet long, closed by gates that open on the ebb tide and shut on the flood. The company succeeded in draining the river of the tide water, but the numerous streams flowing into it prevented further operation in that direction. They then obtained a charter for a toll bridge on said dam, and at present it is used only for the bridge. It is said

by skillful millwrights that if another dam were erected on a similar fall one mile below on said river, with gates as before described, so as to drain the river between the dams for a reservoir to receive the water received by the mills on the upper dam, so that what accumulated on the flood would run out on the ebb tide, there would be a never failing supply of water. If the fresh water streams should fail at any time, the flood gates could be set open and the river above filled in twenty-four hours. It has been estimated that the river when full above would last one week without the help of any of the streams. The river above could be filled while the mills are shut down on the Sabbath. The Meadow Dam is now the head of navigation on the river; vessels drawing twelve feet of water can come up to the dam.

PERHAM—AROOSTOOK COUNTY.

Formerly No. 14, R. 4.

[See Appendix.]

PERKINS—SAGADAHOC COUNTY.

From the Statement of the Selectmen.

ONE POWER.

The "Little Narrows," between two islands, about seventy-five feet wide, through which the tide runs with considerable rapidity. Fifty years ago a move was made to improve the privilege; a wheel was set which worked well, but from want of means or some other cause not now known, mills were never erected. The privilege is now entirely unimproved.

PERRY—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

All the above are situated on Little river, the outlet stream of Boyden pond, and all within a horizontal distance of two miles. The pond is five by two miles, and is fed by brooks and springs. It has a dam at its outlet.

First, "Gibson's privilege," twelve feet fall; grist mill and carding machine.

Second, "Gates, Duren & Co's privilege"; fall, twenty-five feet; gang saw mill.

Third, "Chadbourne privilege"; lath machine; fall twenty-two feet.

Fourth; "——— Mill," lath machine; fall, ten feet.

Fifth, "Rapid"; six feet fall.

The powers work about eight months of the year; artificial reservoirs might be constructed of such size as to supply water for all the year; wheels, high breast.

Gates, Duren & Co., upon one power, saw 3,500,000, of lumber, yearly. Their mill is within three-fourths of a mile of tide, and the landing place of vessels of not over two hundred tons.

Market, New York, Boston, and all points by sea.

Rock; sandstone. Land on each side of the stream cleared, level, good for building, and productive of hay; the town is generally fertile. The lots remaining after the removal of the timber, two hundred acres each, will make each two good farms.

The power is not all employed. The amount of it may be judged from the working capacity of Gates, Duren & Co.'s work upon one power.

Peru—Oxford County.

[See Appendix.]

Phillips—Franklin County.

Digested from Selectmen's Returns.

THREE POWERS.

All are situated on Sandy river in a running distance of three and a half miles.

First, the upper of the series, "Wing's Mills"; operate all the year.

Second, two miles and a half below, "Whitney's Saw Mills" use 144 inches of water; estimated power, thirty horse-power at lowest run, which is about one-fourth of the quantity running. Operate part of the year.

Third, one mile below, as the stream runs, and sixty feet lower, vertically, "Beedy's Grist Mill," operates all the year. Improvements consist of clover mill and saw mill, sawing and planing mill, grist and carding mill.

Flutter, Blake's, and Tub wheels, employed. More dams could

be cheaply constructed; range of water eight feet in a width of fifteen rods.

Freshets cannot affect the present mills; water variable; rises and falls quickly.

Rock, granite; lay of the land good; three-fourths of the basin covered with forest.

Improvement of the power has benefitted the town much, in proportion to its amount.

Market, Farmington, eighteen miles by road, and at home.

PHIPSBURG—SAGADAHOC COUNTY.

Digested from the Statement of Sam'l D. Reed, Esq.

TEN POWERS.

First, a good tide privilege at the "Basin," on New Meadow river; has carried a saw mill, corn mill, carding machine and fulling mill; has not been improved for a great number of years; stone dam remains good; vessels can load at the mills. Situated about twenty-five miles from Portland, by inside navigation among the islands of Casco Bay, ten miles from Bath, and two from the mouth of New Meadow river. There is no old forest, but a good second growth in the vicinity. Plenty of good granite near, and a good lime quarry within a mile on the same basin of water, and plenty of wood in the vicinity. Lime burning could be made very profitable as the limestone is situated near the shore.

There is, also, a very hard stone somewhat connected with the limestone; it is so hard that the limestone drills can make no impression on it. It has been pronounced by mechanics to be a superior emery.

The water-power, lime quarry and emery stone, are owned by Sam'l D. Reed, and others, of Phipsburg.

Second, a small tide power at Small point; a saw mill and shingle mill; also, a quarry of good mica slate, which can be got out in large sheets.

Third, a small tide power on a branch of Morse's river; has been a saw mill. Morse's river makes in from the sea about ten miles west from Fort Popham.

Fourth, at "Parker's Head," on the Kennebec river, there is a very great tide power which has carried ten up up-and-down saws

with the usual complement of small machinery, such as shingle, lath, picket, &c, &c. With the best water wheels, the power would carry double the amount. It "is considered the best privilege on Kennebec river," being open all winter to navigation; is three miles from the mouth of the river and Fort Popham, and ten miles from Bath. Logs come down river to supply the mills. Eight of the mills were burned down last September, (1866), leaving the dam in good condition. The privilege is for sale. Good quarry of granite and flagging stone about one mile to the west of Parker's Head village, from which stone has been used for more than thirty years. The stone splits well, and works up to a fine edge.

Fifth, a tide power at the centre village, on Kennebec river, now occupied by two up-and-down saws, some small machinery, and a grist mill; power sufficient to carry more mills. Logs come from up river, principally, to supply the mills. It is also used, in part, for sawing ship timber for vessels built near the mills. The mills are seven miles from Bath and six miles from the mouth of Kennebec river.

Sixth, two miles from the centre villege, a double saw mill at Drummore, so called; vessels load at the mills.

Seventh, "Drummore Bay" might be dammed so as to make a very large tide power.

Eighth, on a fresh water stream which enters Parker's Head mill pond, where there has been a saw mill; afterwards a shingle mill. The shingle mill was worked by an over-shot wheel.

Ninth, a fresh-water power, at the basin, has a fall of about sixty feet from the pond to high water mark; not perpendicular fall. The stream enters the basin, then passes into New Meadow river.

Tenth, "Winnegance Tide Mills," three miles from Bath and four miles from Phipsburg-centre village, a large reservoir, sixteen saws, and some machinery for small lumber. Nine mills are on the Phipsburg side of the pond, and seven on the Bath side. Supplied with logs from up Kennebec river, mostly. It is controlled by a corporation. Winslow Morse, President.

PITTSFIELD—SOMERSET COUNTY.

Digested from Selectmen's Returns.

[See also "Burnham and Pittsfield."]

THREE POWERS.

First, "Douglass Ledge," on the west branch of the Sebasticook river; fall fourteen feet in 150 rods. Unimproved.

Second, on the same stream, "Hathorn's Mill"; fall fourteen feet in forty rods; will manufacture 4,000,000 shingles, 2,000,000 long lumber, 10,000 bedsteads, grind 100,000 bushels of grain. This is about one-fifth of what all would do if improved. Centre-vent wheels.

Third, "Call Rips," on the same stream, seventeen feet in 200 rods. Unimproved.

Several lakes and ponds, amongst them Moose pond, eight by one miles. All can be converted into reservoirs. Granite in the shape of boulders, suitable for building. One-half basin of stream covered with woods. Improvement of the power has aided the town. Annual production $4,000. Market, Bangor, Lewiston, Portland, by Maine Central Railroad.

PITTSTON—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, on Worromontogus stream, a very substantial stone dam fifteen feet high; an up-and-down saw, a shingle, clapboard, and lath saw, cutting 500,000 long lumber, 1,000,000 shingles, clapboards and laths in the same proportion.

Second, on a branch of Eastern river; saw mill, grist mill; former operates five months, latter about all the year.

PLYMOUTH—PENOBSCOT COUNTY.

Statement of the Selectmen.

FIVE POWERS.

All are situated on Martin stream and all of them are improved save one.

First, "Martin Stream Falls," at Plymouth village; saw, shingle and grist mill, four runs of stones; saw mill will cut the present season about 500,000 of lumber. Grist mill usually full of business, especially in dry seasons.

Second, sixty rods north of the village; upon it a large tannery which consumes yearly some 8,000 cords of bark and 5,400 cords of wood.

Third, 120 rods north, carding and clothing mill which is never idle in the season of business. An addition to said mill has been made the present season and new looms purchased.

Fourth, unimproved, two miles northwest of the village.

Fifth, two and a half miles northwest of village; saw and shingle mill. This power has an additional supply of water from "Ferguson Brook," which unites with Martin stream a short distance above the mills.

The total height of the falls not ascertained, but the descent of water is amply sufficient for a fifteen foot head on either of the powers named. A judgment of the capacity of the stream for manufacturing may be formed from the fact that it is sufficient to run the saw mills, shingle mills and grist mill a greater portion of the year in our driest seasons.

Machinery modern; "Rose," or "Thurlow," and "Scroll" wheels; cannot be recommended for economising power.

Martin stream is connected with two small ponds within the range of two miles above the falls, known as Plymouth pond and Little pond. These ponds are flowed by dam at falls together with a large extent of land comprising with pond some 1,800 acres. The amount of territory thus flowed keeps a large volume of water in reserve to be used as needed and renders this power among the best in the State.

Formerly there was a dam in Dixmont, four miles southeast of this village, upon which were mills. The mills have been burned and the dam has gone to ruin. This dam flowed a large area of land and added much to the capacity of the power at Plymouth. This might again be built if deemed necessary.

Total range from low to high water about six feet. The stream is very uniform on account of reservoirs. The head of stream at falls runs on a compact ledge. The soil above the bed rock is clayey and well adapted to the retention of water. The land above falls lies but little elevated above high water mark on dam quite a distance, and the site for factories, workshops, &c., is convenient and easy of access. The proportion of basin of stream covered by forests about one-half.

The market for farming products, more especially potatoes, is at East Newport, on Maine Central Railroad, three and a half miles north of village, and the surplus of lumber manufactured at mills is sent there to be conveyed to eastern and western markets.

POLAND—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns, based upon the Survey of S. F. Waterman, Esq.

[See also "Minot and Poland."]

THREE POWERS.

First, "Poland Corner Privilege," on Waterhouse brook; fall eighteen feet, within a distance of 350 feet; velocity of current 100 feet per minute; area of cross section, thirty square feet. Improved in part, by a grist mill and saw mill; a good stone dam across the head of the falls; mills operate all the year.

Second, "Shaker Mill"; fall forty-two feet within 250 feet distance. A thirty foot overshot wheel runs a large amount of machinery all the year; for grinding grain, sawing staves, planing, machine shops, carding wool, &c.

Third, "West Poland Mill Co," on Saunder's brook, an eighteen foot overshot wheel, a saw mill, or stave mill, operating half the year. Power could be increased, to some extent, by flowing meadows.

PORTER—OXFORD COUNTY.

Digested from Selectmen's Returns.

[See also "Parsonsfield and Porter."]

FOUR POWERS.

First, "Stanly's Mills," at the foot of Robert's pond; head and fall eight feet.

Second, "Collard's Mill," at the foot of Collard's pond; eight feet fall.

Third, "Gentleman Mill," on the Mill brook which runs by Porter village; fall seven feet.

Fourth, "Robbin's Mill," on West Branch brook; fall five feet.

Abundant and good granite. Two-thirds of the basin wooded. Market, Portland, by rail and road.

PORTLAND—CUMBERLAND COUNTY.

Statement of the Proprietors.

ONE POWER.

The "City Mills," a tidal grist and salt mill; three runs of stones; works twelve hours a day; can grind 150 bushels per day; thirty acres of pond.

The above privilege is situated near the head of Back Cove, an arm of the sea nearly eight hundred acres in extent, with a narrow entrance which might be dammed at no great expense and a tide power of great capacity and of great value for flour mills and other adapted purposes be established.

POWNAL—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Haskell's Mills," on the southeast branch of Royal's river, near Poland Centre; fall, with a dam ten feet high, twelve feet. Saw mill and grist mill; dam out of repair; machinery old-fashioned and poor; power sufficient to run both mills all the year, with improved machinery and good dam. Rocks; coarse granite, suitable only for rough work.

Second, "Merritt's Mills," on the northeast branch of Royal's river, near north Pownal village; a saw mill might run the year round with good dam and modern machinery. Height of fall, with a dam twelve feet high, fourteen feet; ponds the water back about two miles; formerly a grist mill upon it.

PRENTISS—PENOBSCOT COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "Mattagordus Falls," on Mattagordus stream, a tributary of the Mattawamkeag river. Fall about forty feet in one-fourth of a mile; the main road crossing where the dam should be placed. Power not improved; very large tract of low, flat land upon the stream could be converted into reservoir at little expense. Stone suitable for foundations and dams close at hand.

Second, on Mud brook; a saw mill; basin of stream seven-eighths forest. Annual production $500. "Before the mill was built

a board could not be got within ten miles." Soil stony and productive.

"Large and valuable water powers in the unincorporated places surrounding us. They will be of great value in time. The whole region needs survey; it will stand the test."

Presque Isle—Aroostook County.

Digested from Selectmen's Returns.

TWO POWERS.

First, at "Presque Isle Village," on Presque Isle river of the Aroostook. Fall ten feet in one-fourth of a mile; a dam, saw mill, and grist mill. Reynolds' turbine wheels used and highly esteemed.

Second, on Alder brook, a dam and saw mill; Tuttle's wheel; also esteemed.

The power of the above, chiefly the river; will saw 3,000,000 feet of lumber, and grind 100,000 bushels of grain, yearly.

No lakes or ponds in the neighborhood; the dam on the river ponds the water back five miles. Range of water, six or eight feet; land about the falls very convenient for building; basin, one-half wooded. Wealth and population of the place have been doubled by the improvement of the power.

Market, St. John, N. B., and Boston, by St. John river and St. Andrews' railroad.

Princeton—Washington County.

Digested from Selectmen's Returns.

FOUR POWERS.

First, "Foot of the Lakes Privilege," on the West branch of the St. Croix river; fall about eight feet; now drives the machinery of one large tannery, one woollen factory, two gang saw mills, six shingle mills, one grist mill and other machinery.

Second, three miles below, unoccupied; fall about six feet.

Third, on Dry brook, a tributary to the Machias lakes; power sufficient to carry one saw mill, with the machinery usually attached.

Fourth, on Lewey's brook, likewise a tributary to the Machias system; a power of equal capacity with the foregoing.

The supply of water on the West branch of the St. Croix is, of course, very great, and with suitable dams upon the lakes may be made constant throughout the year.

PROSPECT—WALDO COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

On Grant's river; head and fall about eight feet to each horse-power; saw mills on each; only one saw mill now in use; a grist mill, also, on one dam.

Mills operate about three-fourths of the time; would saw 300,000 of lumber and do all the grinding of grain for the county; stream variable; rises ten feet in freshets.

Porphyritic granite; no old growth forest.

RANGELY—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

All the above are of considerable size; to wit: "South Bog Stream," "Haley Pond and Gull Pond Stream," "Dodge Round Pond," "Kennebago Stream," and "Rangely Lake Privilege," i. e., at the foot of the lake.

In addition to the above, numerous mill sites on small streams.

The five above mentioned have each from two to four ponds above them, from one to four miles in length, all of which could be raised by dams at an insignificant cost. The country is so broken that the water issuing from the ponds can be used over and over again.

There are dams on the Rangely lake privilege, and also on the Dodge Round pond privilege.

Not one-sixteenth part of the power employed; in fact only one mill stream is put to use, sawing a few thousand boards a year. "Never any drouth here, on account of frequent showers." The joint result, probably, of the lakes, mountains and forests.

RAYMOND—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

First, "Plummer's Mills," on Panther river, fall sixteen feet, operate nearly all the year; grist mill, with three runs of stones; six circular saws; one up-and-down saw, a planer, and in spring a plaster mill. About half of the power used.

Second, "Fulton's Mill," on Radoux river; fall fifteen feet.

Third, "Jordan and Adams Mills," on Nubble brook; fall suffi-

cient for overshot wheel; several circular saws operate part of the year.

Fourth, "Nason's Mill," on Nason's brook; overshot wheel, several circular saws; operates part of the year.

Fifth, "Spiller's Mill," on Little Rattlesnake river; overshot wheel, several circular saws; operates part of the year.

Sixth, "Eetchell's Mill," on Little Rattlesnake river; overshot wheel, circular saw and an up-and-down saw; operates part of the year.

Streams connected with ponds which can be improved for reservoirs. A dam, at the outlet of Panther pond, would make the privilege a most excellent one; there is now abundant water at this privilege all the year with great waste; streams very constant; freshets entirely harmless. The water-power, if suitably improved, would benefit the town largely. One-third to one-half of the basin of the streams covered with forests.

Market, Portland, by road and canal.

Readfield—Kennebec County.

Digested from Selectmen's Returns.

THREE POWERS.

All situated upon Factory stream. Total height of the series forty feet in 160 rods. Improvements not stated. Mills operate in general all the year.

Stream connected with a pond covering one and a quarter square miles; its capacity can be increased. Rocks not suitable for building.

Richmond—Sagadahoc County.

Digested from Selectmen's Returns.

TWO POWERS.

First, on Abagadassett river; fall fourteen feet; velocity of current four miles per hour; no part of the power improved; would carry two runs of stones nine months of the year.

Second, on Mill brook; fall ten feet in half a mile; current six miles per hour. No part of the power used.

Freshets four times low-water volume; streams regular; good stone for building; lay of the land good. One-half of Abagadassett basin covered with forest; one-fifth of Mill brook do. do.

RIPLEY—SOMERSET COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

All are situated on the outlet of Roger's pond, in the south part of the town. Total height of the falls fifty feet in 160 rods.

The power, if suitably improved, would saw 1,000,000 feet of boards per annum. About three-fourths of the power is improved, in saw mills and shingle mills. Mills operate about one-third of the time; machinery of poor construction for economising power; Centre-vent, Stearns, and Flutter wheels.

The pond is two by five-eighths miles; its capacity cannot be increased by dams. Total range of water four feet.

No out-cropping rock about the falls; one-third of the basin of the stream is covered with forests; annual product of the power about $1,400.

Market, Newport and Bangor by road, and by railroad from Newport.

ROBBINSTON—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

NINE POWERS, OR MORE.

First, on Low's brook; formerly a saw mill that did an effective business, now out of use; fall about ten feet; power equal to 864 square inches; stream supplied by Shattuck's lake, sixty acres, and Cranberry lake, thirty acres. Length of the stream about one and a half miles. The privilege is situated in the northeasterly part of the town, on the county road, thirty rods from the St. Croix river.

Second, a short distance above the flow of the tide at Mill cove, in South Robbinston, below the junction of the Western and Eastern Lake streams, (the lakes have an area of eighty acres), is situated "Vose's Saw Mill"; at present operations suspended; capable of cutting at least 10,000,000 feet boards in the usual sawing season, besides laths, pickets, &c. Overshot wheel, twenty-four feet diameter; water about 1628 square inches; head and fall, about thirty feet. The tide flows to the foot of the mill, which is about forty rods from the county road.

Third, at Mill cove, formerly a tide-mill; an eligible site for one.

Fourth, fifty rods above said Vose's mill, on the Western Lake

stream, are a shingle machine, plug and wedge machine, tannery, lath and carding machine, which are doing a prosperous business.

Mills all under one roof and driven by an overshot wheel of nine and one-half feet diameter; head and fall, some twelve feet; dam founded on a ledge and about five rods long. The pond of water, at these mills, may be estimated at 1,152 square inches.

Fifth, Sixth, etc.; there are several other mill privileges on the Western Lake stream, equally eligible with those described above.

Seventh, Eighth, etc.; "several good privileges" on the outlets of Rand Lake and Money-makers' lake; the former lake has an area of say thirty acres, and the latter thirty-five acres.

Ninth, a good site for a mill on the outlet of Eastern lake, the area of which lake is thirty-five acres.

Rockland—Knox County.

From the Mayor's Returns.

TWO POWERS.

First, at the outlet of Chickawakie pond. This pond supplies the city with water, and the power is used only when there is a surplus. A grist mill located upon it. Mill and privilege both owned by the water company. Volume of water could not probably be increased.

Second, a power on Boggy brook; two mills, a single saw and stave; runs about four months of the year.

"Manufactures of this place, lime and vessels"; 900,000 casks of the former annually.

Rome—Kennebec County.

From the Statement of the Selectmen.

ONE POWER.

Situated upon a small stream that leads from one pond to another; one saw mill and one grist mill on the same which run about three months out of twelve.

Roxbury—Oxford County.

Digested from Selectmen's Returns.

NUMEROUS POWERS.

A large number of small water-powers in the town; the two principal ones are situated on Swift river, "Walker's Narrows," and

"Week's Falls"; height of these falls sixteen and eighteen feet respectively; height is attained in a running distance of about fifteen rods in each case; average velocity of current one rod per seven seconds; area of cross section taken in same locality as the velocity, forty-five feet; so it will be perceived that the stream is narrow and shallow, but very rapid as its name indicates.

"Weeks' Falls," have never been improved, but Walker's Narrows have been improved to a considerable extent. Mills destroyed by fire in 1860. They were a saw mill, grist mill, clapboard mill, shingle mill and thresher.

Water always sufficient for running a saw mill throughout the year.

Few ponds. "On account of the variableness of the stream it would be difficult to construct artificial reservoirs of any considerable capacity. Freshets swell the stream to perhaps a greater extent than any other stream in the State;" they are not destructive as the banks are very high.

There is plenty of granite about these powers.

RUMFORD—OXFORD COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

Four small powers, concerning which no information is given.

"Rumford Falls," on the Androscoggin river, one of the largest, if not the largest in the State.

Height of the falls 162 feet eight inches, in a running distance of one mile.

Power, that of the whole Androscoggin river at that point. The river is but ninety feet wide and could be dammed at comparatively small expense. The bottom and sides of the stream are granite ledge; the rocks are suitable for building purposes.

The power is owned by Chaplin Virgin and others. Proprietors are disposed to sell.

Improvements, one saw mill, one grist mill, and some other small works at Rumford falls. An insignificant fraction of the power is employed.

If the volume of water be assumed to be twenty-five per cent. less than at Lewiston, or 70,500 cubic feet per minute at low run, the

power of the whole fall in a drouth is not less than 15,974 net horse power, or 958,440 spindles.

St. Albans—Somerset County.

Digested from Selectmen's Returns.

EIGHT POWERS.

First, at the outlet of Indian pond, a stone dam ten feet high, flowing the pond with its flats, fifteen hundred acres in all; no machinery upon it.

Second, a few rods below, on Indian pond stream, a stone dam seven feet high; a shovel-handle factory, carriage-shop, sash-and-door factory and shingle mill upon it.

Third, about fifty rods below the upper dam, a third dam, upon which are a grist mill and saw mill.

Machinery on the middle dam not requiring much power runs nearly all the year; the saw mill on the lower dam runs about three-fourths of the year.

Fourth, about a mile below, likewise on Indian pond stream, "Lothrop's Mills;" a fall of fifteen feet; a saw mill, grist mill and tannery. The mills run about two-thirds of the year.

Fifth, on the main branch of Indian pond stream, in the north part of the town; a fall of sixty feet in half a mile; only a shingle mill upon it. This stream is the outlet of Rogers' pond in Ripley.

Sixth, a fall of twenty feet in thirty rods, on the east branch of the stream, with a shingle mill upon it. Stream fed by a pond.

Seventh, on a branch of Footman brook, a fall of twenty-five feet in fifty rods. Formerly occupied but not now.

Eighth, on another branch of Footman brook, a fall of twenty-five feet in fifty rods. Formerly occupied but not now.

Each of the foregoing two powers is capable of running a saw mill half the year. One has a good dam and a building for a shingle mill upon it. Expense of dams at either of the powers would be small, and there is no liability to damage from freshets. Rogers' Pond, before mentioned, might be made a valuable reservoir.

Manufactures, 200,000 shingles, 400,000 feet boards and timber, 8,000 dozen shovel handles, and seventy-five to a hundred tons of leather.

Market, for shingles, Bangor and Portland, by railroad from New-

port or Pittsfield; for leather and shovel handles, Boston, by railroad; for boards, sash, doors, etc., the surrounding country.

"The setting off of the valuable water-power on the west branch of the Sebasticook river, from this town to Hartland, by the Legislature in 1846, has had a marked and detrimental influence upon the progress of wealth and population of this town."

SACO—YORK COUNTY.

Digested from the Mayor's Returns.

[See also "Biddeford and Saco."]

TWO POWERS.

First, on Little river, fall six feet; a single and circular saw operate three months in the year; cuts 60,000 lumber and 50,000 fish-barrel staves.

Second, on Nonesuch river; fall twenty feet in one-tenth of a mile, single saw and circular saw; runs nine months in the year; cuts from 300,000 to 400,000 lumber, and 150,000 shingles annually.

ST. GEORGE—KNOX COUNTY.

Selectmen's Statement.

There is no water power in this town.

SALEM—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

A privilege on Curvo stream; height of dam fourteen feet; ponding the water back one-half mile.

Will run an up-and-down saw and a grist mill all the time. Howard, Centre-vent, and Rose wheels.

Annual product $500. Does all the sawing and ginding for the region seven miles about.

Market, Farmington, by road.

SANFORD—YORK COUNTY.

From the Returns of M. W. Emery and James O. Clark, Esqs.

SIXTEEN POWERS.

All the above are located upon the Mousam river, and beginning with the flow of the water, they are best known by the names of the owners.

First, the "Merrifield Fall," near Jillison's bridge, fall thirty feet; entirely unimproved.

Second, "Hemmingway & Lord's Fall," ten feet; a wooden dam; a saw mill, grist mill, and threshing machine.

Third, "Kimball's Privilege," situated about one-fourth of a mile below Hemmingway & Lord's fall, and about one mile above Springvale; fall of about ten feet; was used for a grist mill; is now out of use.

Fourth, the "Factory Privilege" of Shattuck & Smith; fall, fifteen feet; located at Springvale; a stone dam; runs a cotton mill about 100 feet long, three and one-half stories high; manufactures print cloth.

Fifth, a saw mill privilege, just below the above cotton mill; fall of ten feet; wooden dam.

Sixth, is the "Print Works Fall"; fall of twelve feet; stone dam; has a grist mill and a cabinet manufactory in operation on it.

Seventh, "Low's privilege"; fall, ten feet; entirely unimproved; located about half a mile below Springvale.

Eighth, the "Gowen Mill Privilege," three-fourths of a mile above Sanford corner; was used for a saw and grist mill; now run out; fall, nine feet.

Ninth, "Goodall's Privilege"; stone dam; fall, fifteen feet; a saw mill on one side, and now being erected on the other side, a mill three stories high, which, when completed will be 100 feet long, with a large L, and will be used to manufacture carriage lap-robes.

Tenth, located just below the above factory, and belonging to the same proprietor, a stone dam; fall of fourteen feet; a grist and flour mill; both of these falls taken together would give a fall of about thirty-six feet; located at Sanford corner.

Eleventh, the "Chadbourn Mill Privilege;" located about one-

fourth of a mile below Goodall's privileges; was used for a saw mill; is now run down; fall, nine feet.

Twelfth, "Willard Mill Privilege," located at South Sanford; fall, eight feet; stone dam; runs a saw mill and box mill.

Thirteenth, "Linscott's Privilege," two miles below Willard's; fall, ten feet; wooden dam; saw mill.

Fourteenth, "Estes' Privilege," one mile below Linscott's; fall, nine feet; wooden dam; grist mill.

Fifteenth, "Whitches' Privilege," one mile below Estes' mill; fall, fourteen feet; stone dam; saw mill.

Sixteenth, "Hill's Mill," immediately below Whitches'; fall, twelve feet; grist mill; wooden dam.

The aggregate fall, within the limits of the town, is about 200 feet. The average velocity of the current of the Mousam river is about three feet per second. No measurement of the power of the river, in this town, has ever been made. It may be stated, however, that with fourteen feet fall, the river would drive 10,000 spindles, of woollen machinery, all the year.

All the mills on the river work the whole year, if they have work to do; the water has never failed when the dams have been in good condition. The river is fed by four ponds, of dimensions as follows: one by three-fourths miles, seven by one and one-fourth miles, one by three-fourths miles, four by two and one-half miles. The last specified, "Square Pond," is drained only by a small brook running off a very small amount of the top of the pond. At one point it is very near Goose pond, the third specified above, that flows all into the river, and as the level of Square pond is twenty-five feet higher than that of Goose pond, it might, by a small outlay, be made a reservoir that would greatly increase the volume of the river and provide against all danger of low water. As it is, these ponds being fed by springs, they form natural reservoirs against dry times, rendering this river one of the best, in that respect, in the State.

We never have very severe freshets, and have never sufferd much damage from them; the volume of water remains the same nearly all the year.

The lay of the land, about most all the falls, is well adapted to the erection of mills. Above half of the basin is forest.

The water-power "has been the making of Springvale, and is now building pu Sanford Corner."

Our principal market is Boston; the railroad now runs within eight miles of the centre of the town; next year we expect the Portland and Rochester railroad will run directly through the town. Proprietors will aid in a survey.

SANGERVILLE—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS.

Five of the above are situated on the Northwest pond stream, and in close proximity to Sangerville village, as follows: "Weymouth Dam," six feet fall, flows back one-fourth of a mile; "Factory," fourteen feet, flows one-eighth of a mile; "Carleton," seventeen feet; flows twenty rods; "Fulling Mill," twelve feet, flows twenty rods; "Thissell," twelve feet, flows fifteen rods. All the above have been improved, and each dam flows as near as practicable to the next above.

On the Carleton dam a grist mill, saw mill and tannery. The grist mill could grind ten bushels per hour at lowest water, and for the most part of the time could grind thirty bushels per hour, and leave sufficient water to run the saw mill and tannery.

Dams on Nos. 2 and 3 only have mills now on them; No. 2 a woollen factory, and No. 3 a saw mill, grist mill and tannery.

Factory has not yet been put in operation. The grist mill works all the year, saw mill eight months; Blake's centre-vent and Rose wheels. Ponds about 500 acres in extent.

The extent of the above could be doubled, and new reservoirs made on the stream that supplies the pond in Parkman, helping the privileges in that town equally with those in Sangerville.

Freshets have never been destructive at all, the ponds and swamps taking up the water and passing it off gradually.

The rock and ledge seem to be lime slate. Mills may at the same time connect with the dam as a part of their foundation, and be adjacent to a good road running parallel to the stream. Nearly one-half of the basin of stream is covered with forest and timber.

Sixth, on Black stream; fall of fifteen feet; improved by saw mills, grist mill and shingle mill; water sufficient to run the mills through the year.

Seventh, on Centre pond stream; fall of fourteen feet; improved by saw mill and shingle mill.

Eighth, on the same stream; fall of twelve feet; improved by saw mill and shingle mill. Water sufficient to run the above mills through the year.

Market, Bangor by road, distant thirty-three miles.

Scarborough—Cumberland County.

From the Statement of the Selectmen.

TWO POWERS.

First, a saw mill privilege with a small volume of water. Will operate only in wet times. Situated near the post road.

Second, an unoccupied privilege on the Dr. Milliken farm; of its capacity we have no knowledge other than it is small.

Searsmont—Waldo County.

Digested from Selectmen's Returns.

FIFTEEN POWERS.

Of the above, eight are located on the west branch of the St. George river and seven on the east branch and its tributaries.

First, "Woodman's Mills," in the westerly part of the town, on the main or west branch of said river; a saw mill and stave mill; operates only a part of the year on account of the flowage of meadow land.

Second and third, two miles below Woodman's mills, the two "Boynton Privileges," both unoccupied. A head of sixteen feet can be raised at these points and flow a large pond.

Fourth, one mile below the above, the "Muzzy Mills;" a saw mill, stave mill and tannery.

Fifth, about eight rods below, is the "Muzzy Privilege," unoccupied.

Sixth, eight rods below, the "Hezeltine Mills," at Searsmont village and near the centre of the town; saw mill, grist mill, carding and clothing mill, stave mill, and shingle mill; operates all the time except in drouths. At these mills there can be a head of eighteen feet raised.

Seventh, two miles below the foregoing and below the junction of the east branch, (which takes place at the village,) are the "Dyer

Mills;" saw mill and stave mill; operates part of the year at present.

Eighth, one-half mile further down, is the "Canal Dam," unoccupied. A head of twenty-five feet can be raised here. This power, and the one above, can be made capable of large use throughout the year, by means of a dam at the outlet of Quantabacook pond, situated on the east branch.

Ninth, in the north part of the town on the east branch aforesaid, on a stream emptying into Quantabacook pond, "Thompson's Saw mill."

Tenth, one mile below the foregoing, the "Wallace Dam," unoccupied; flows a large meadow.

Eleventh, 100 rods below, the "Jewett Mill;" a saw mill and stave mill.

Twelfth, on a stream tributary to the Quantabacook pond, in the west part of the town, "Arnold's Privilege."

Thirteenth, 100 rods below, the "Morse Stave Mill."

Fourteenth, half mile below, "Woodcock Mill"; saw mill, stave mill, cabinet shop.

The fifteenth not specified.

The lay of the land on the main river very convenient for the location of mills. Abundant rocks suitable for dams and other constructions.

Belfast, the usual market, ten miles distant.

SEARSPORT—WALDO COUNTY.

Digested from Selectmen's Returns.

EIGHT POWERS.

These are situated on Big-Meadow stream and Half-Way stream, and are all small.

The power is nearly all improved; one grist mill, two flouring mills, two stave mills, three shingle mills; the residue are saw mills which cut long lumber.

The privileges are owned by the "Mill Company," and by private parties in town. The underlying rock is granite, and is good for building purposes. The productions of the mills are not sufficient for export; market, therefore at home.

Sebago—Cumberland County.

[See Appendix.]

Sebec—Piscataquis County.

From the Returns of Augustus Williams, Esq.

FOUR POWERS.

These are situated in the north part of the town, on Sebec river; one at the foot of Sebec lake, one two miles below. The first may be called the "Sebec Village" power; the second the "Half-Mile Rips."

The first has a fall of eighteen feet, which is attained in a running distance of twenty-five rods; the second has a fall of twenty-five feet, attained in a distance of one-half mile.

The average volume of water, in the stream, is sufficient to fill a trunk six feet each way, under a ten foot head. This estimate is made by measurement of the different trunks to the water wheels in use.

The power at Sebec village is less than half improved; by a woollen mill, of four sets of machiney; a saw mill, with an up-and-down saw; a clapboard saw; a shingle saw, and lath saw; a carriage shop, and a mill containing a shingle machine, planing machine, and various other wood working machinery. The second is unimproved. The mills work all the year.

The machinery is not of the best construction. Part of the wheels are old iron wheels, of the re-acting class; the others are modern centre-vent, or scroll wheels, of very good pattern; the last will do the work of the first with one-third of the water.

Sebec river is the outlet of Sebec lake, which receives water from more than twenty ponds, of various sizes. The lake has an area of about eighteen square miles; the ponds emptying into it have, in the aggregate, an equal area or more. Their capacity could be increased greatly. The water of the lake is so warm that the wheels need no protection from the cold; the water in the pond, for a half mile above the dam, seldom freezes over, and never remains frozen but a few days at a time.

The volume of water is, probably, ten times greater in freshets than at other times; no damage from high water; range from low to high water on the lake and at the dam, six feet.

Underlying rock, a hard "blue rock," unfit for building; the lay of the land, at both privileges, is as good as could be desired; the proprietors would pay part of the expense of a survey; nearly all the basin of the stream is covered with woods. Where our village stands, a forest would probably have stood, but for our water-power.

Market, Bangor, by road. All the privileges are within four miles of the railroad now constructing from Bangor to Dover.

SEDGWICK—HANCOCK COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, at the outlet of Frost pond; a saw mill, stave and shingle mill.

Second, on Thurston's brook; a saw mill.

Third, on Black brook, the outlet of Black pond; a saw mill.

Fourth, on Camp stream, a saw, shingle and stave mill.

Fifth, grist mill on Sargent's stream.

Sixth, a saw and stave mill, also a grist mill, driven by tide power, on Benjamin's river.

Only the tide mills operate all the year, water being too low a part of the year at the others. Some of the powers could be much improved by raising the dams at the outlets of the ponds.

"Our mills are matters of convenience to our people, rather than a profit to their owners."

SHAPLEIGH—YORK COUNTY.

Digested from Selectmen's Returns.

[See also "Newfield and Shapleigh."]

FOUR POWERS.

First, "Emery's Mills," on Mousam river; fall fourteen feet. This power is fed by Mousam pond, five by one and a half miles in extent, and by Square pond and Loon pond. Square pond is thirty feet above the main pond. Improvements, saw mill, shingle mill, a sawing and planing mill; mills operate, or can operate all the year. This is a good site for a factory as there is abundant water, constant at all seasons, perfectly manageable and safe from freshets.

Fourth, a privilege at or near Emery's mills, not occupied; abundance of good stone; lumber sufficient for building purposes.

Market, Wells is the nearest railroad station now, distance sixteen miles. The Portland and Rochester Railroad will come within three miles.

SHERMAN—AROOSTOOK COUNTY.

[Golden-Ridge Plantation on the State Map.]

Digested from Selectmen's Returns.

THREE POWERS.

First "Upper Falls," Molunkus stream, fall ten to fourteen feet; unimproved.

Second, "Centre Falls," Molunkus stream, ten to fourteen feet fall; single saw and grist mill.

Third, "Lower Falls"; "improved," but not stated how; fall ten to fourteen feet.

These powers work about eight months in the year. A dam at the Upper falls might flow a large bog eight feet, and secure water enough for the whole year. Range from lowest to highest water, four feet. Rock, slate; nine-tenths of the basin of the stream covered with forests. The improvement of the power has added seventy-five per cent. to wealth and population of the place.

Market, Bangor, by boat and road.

SHIRLEY—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First and Second, "Hulling-Machine Fall," and "Slab Falls," on the west branch of the Piscataquis river, in the west part of the town and in the unbroken forest. The former falls twenty-eight feet in twenty rods, the latter twenty-five feet in four rods.

Third and Fourth, "Shirley Mill Falls," forty feet in thirty rods, and "Buck Basin Falls," twenty-five feet in one rod; both situated in the east part of the town on the north branch of the Piscataquis river.

No measurement of the streams has ever been made, but they are about 100 feet wide, and in a drouth run over the falls with about a foot of depth. The powers on the west branch will each saw with one up-and-down saw 500,000 of boards yearly. The east branch powers will saw as much and grind 5,000 bushels of grain each.

One power only is improved, the Shirley mills power; saw mill, clapboard mill, shingle mill, grist mill with two runs of stones.

In ordinary years all the mills now on the stream and many more might operate all the year.

Tub, Blake's centre-vent, and old-fashioned breast wheels; Blake's considered by far the best.

Thousand of acres bogs can be flowed by means of dams, affording vast supply of water. The streams are fed by numerous ponds situated above. "The west branch drains 25,000 acres of basin; the east branch 15,000 acres."

Range of water seven to nine feet from lowest to highest. Rocks, slate, and good for building. Land level about all the falls and convenient for location of mills, etc.

Market, Bangor, sixty miles by road. Town free from debt; school fund of $3,000.

SIDNEY—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

THIRTEEN POWERS, AND MORE.

First and Second, in the southwest part of the town, on Dyer brook; good mill sites; one ten feet fall, the other seventeen; the latter is now occupied by a saw and shingle mill; estimated to cut out 300,000 shingles and 100,000 boards; Blake wheel, of twenty-four horse-power. The other site has never been occupied. Brook takes its rise in Ward's pond, three-fourths by three-eighths miles; at the outlet a dam that commands all the water to the depth of eleven feet.

Third and Fourth, on branches of Lovejoy stream; a saw mill site, with a fall of ten or twelve feet; unoccupied.

Fifth to Tenth, inclusive, on Lovejoy stream, fall ten to twenty feet each; only one or two have been occupied. One within seventy-five rods of the Kennebec river, has a fall of twenty feet or more, and would probably cut from 200,000 to 500,000 boards annually, perhaps more.

Eleventh, on the Thayer brook; has been occupied for a saw mill; has any amount of fall desirable, and is estimated to cut from 150,000 to 200,000 feet of lumber annually.

Twelfth, Thirteenth, etc., on the Delano brook. There are sev-

eral mill sites, with falls sufficient for any purpose, one of which was formerly used for a saw mill.

These streams are all mere brooks, with water plenty in spring and fall, but affected by drouths in summer, except the Dyer stream, which, for the last two years, has had an abundant supply of water to keep the mill upon it running all the year round.

SKOWHEGAN—SOMERSET COUNTY.

Digested from the Statement of Wm. Philbrick, Esq., Selectman.

FOUR POWERS.

First, "Skowhegan Falls," on the Kennebec river, which, at this point, is divided into two channels by an island.

Total fall twenty-eight feet in half a mile. The height may be increased by dams. A considerable proportion of the fall is perpendicular. As appears in the subsequent statement, the sides and bottom of the stream are solid ledge, affording firm foundations for dams, which also are supported by the island, as a natural pier, and by projecting masses of rock upon the brink of the fall.

The lay of the land, about the falls, is only moderately favorable for the location of mills; some of the sites, however, are, in their natural state, good; and room for all structures that may be needed for the use of all the power, can be secured by canals or by shafting. The rock is suitable for dams, foundations and other coarse work.

No measurement of the volume of water, or careful estimate of the power, has ever been made. If the mean summer run be assumed to be thirty-eight per cent. less than at Augusta, or 118,810 cubic feet per minute, this would yield, on a twenty-eight foot fall, 6,300 horse-powers, gross measurement; that at Augusta being, by the same measurement, about 5,000 horse-powers. It is evident that any improvement of the lakes, above, for reservoir purposes, now in contemplation by the Augusta Corporation, will react as favorably upon the power at Skowhegan as the power at Augusta.

One dam on the falls is constructed across the north channel, (the river at this point runs East and West), from the island to the north bank, upon which there are improvements as follows: on the north side is a large brick flour mill; $82,000; Messrs. Tuttle,

Kidder & Co., with power and sites for a large amount of machinery, both by locating mills and shops over the power, and by shafting taken to lots adjoining, high and dry from any risks from freshets.

On the island, in the centre of the village, there are now, circular, clapboard, shingle and lath machines; Weston & Baker; run all the year on hemlock, and all kinds of hardwood, which is hauled in from the surrounding country, and pine timber from the lake, (Moosehead), and streams above; $35,000. A carding and cloth-dressing mill; Messrs. Stinchfield; who design manufacturing cloths, in addition to their other business. An old flour mill, owning a large amount of power, now partly used for a bedstead factory; Weston & Varney; $5,000.

The mills on the island are all on a natural canal, through the upper end of the island, and emptying below the falls. These privileges are very desirable and safe from freshets, and contain a large amount of power, which can be used, like that on the north side, by shafting running inland.

The dam, from the north shore, near the flour mill to the island, is built on ledge bottom all the way, it being a natural fall, and is very cheaply built and very safe, as the ledge comes to the top of the dam in several places; and in the middle is a large natural pier which is all covered at high water and logs float over it. This dam is at the head of the island which turns the water down the south side of the island, at the foot of which is another dam crossing to the south shore, with a gateway conveying the water down the south shore by a side dam and wall.

On the north end of the dam, on the island, a bedstead factory; $7,000; F. Turner. By a little expense this power could be made a very good one. The buildings are all safe from freshets. The dam is built on a ledge bottom. On the south end and on the wing dam and wall, are the following mills and shops:

First, building one hundred by forty feet, three stories high, built for an excelsior factory, wooden mats, carpeting, &c., now partly occupied by Abba Abbot, for a planing mill; $4,000; and for grinding slate rock for paint for oil cloth manufacture. This property is now in the market for sale. Also another planing mill, door, sash and blind factory; H. K. White; $20,000; a custom flour

mill; a paper mill; R. E. Lyon & Co.; $100,000; a skate and chisel factory, running ten trip hammers, lathes, drilling machines grindstones, &c.; C. A. Williams & Co.; $50,000; an axe factory, running eight trip hammers, grindstones, &c.; Steward Williams & Co.; $75,000; also another axe factory, Barnet Wharff, running two trip hammers, grindstones, &c.; $15,000; large foundry, (building of stone,) and a first-class machine-shop owned by S. L. Gould & Co., fitted up with lathes, planers, drills, &c., for the manufacture of, and repair of all kinds of machinery, and the manufacture of the Gould water-wheel, which is used in most all the mills and shops in the town.

The power at "Skowhegan Falls" is a very valuable and desirable one, as it has the whole water of the Kennebec river at this place, and is capable of being largely improved and increased by raising dams, building canals, &c. The bed of the river and shores, are all ledge around the falls, and dams and other structures can be cheaply and permanently built.

The machinery now on the power, probably occupies about half of the amount of water now available, which could be largely increased by raising and tightening the dams.

The manufactories employ a large number of hands, male and female, and thereby increase the business and wealth of the place. This is also, the terminus of the Somerset & Kennebec, & Portland & Kennebec Railroad, and being the centre of all the country of the upper Somerset County and a part of Franklin and Piscataquis counties, has a large business in the wholesale as well as retail trade, and all of such business created by manufacturing and farming must necessarily centre here, this being the only outlet for this large and productive farming country.

Second, Third and Fourth, on the Wesserunsett stream; occupied, one by a tannery, and one by two saw mills, which operate fall and spring; these will run small machinery all the year.

SMITHFIELD—SOMERSET COUNTY.

Digested from Selectmen's Statement.

ONE POWER.

On "Greeley's Mill Stream"; eight feet head; dam flows East pond, which covers from three to four square miles.

Improvements, one saw, one lath saw, a shingle machine and carding machine; mills operate, or can operate, three-fourths of the year. The mills are thought capable of sawing 150,000 short lumber or 500,000 long per annum. Two Gould wheels used, excellent, the others worthless.

Range of water about five feet. Power has recently passed into new hands, "and it is hoped will now be of some benefit to the town."

Market, at home and adjoining towns.

SMYRNA—AROOSTOOK COUNTY.

[See Appendix.]

SOLON—SOMERSET COUNTY.

Digested from the Returns of Joseph P. Buswell, Millwright, Endorsed by the Selectmen.

[See also "Embden and Solon."]

NINE POWERS.

Five of the above are situated on Fall brook, a rapid stream with steep banks, four rods in width when full, with solid ledge bottom and banks, which empties into the Kennebec river at Solon village, falling 100 feet in one-fourth of a mile At the head of the falls is a reservoir dam about eight feet high, which flows the stream back about a mile through the plain which borders the Kennebec river, upon which Solon village is located.

The falls average about twenty feet each and are nearly equi-distant from one another. Each will give a power of twenty horses for ten hours a day in the time of drouth, with very few exceptions, by the use of a high-breast pitch-back wheel, provided the dams are kept tight and the water is used with discretion.

In proof of the power and durability of the stream the results of actual trial in a single case are given: A grist mill, with four runs of stones and all the apparatus for flouring, was driven by a high breast wheel eighteen feet in diameter, with four feet and two-inch elbow buckets, measured inside the rims, and a twelve-inch shroud, and ground for each of seven successive years 20,000 bushels per year. "We never lacked for water during the whole period of seven years, and in our opinion the same may be done again if the

dams are kept tight and the same care and attention are again given."

There are several other privileges in the town of Solon, on small streams where sufficient power to drive an up-and-down saw some three or four months in a year may be had at small expense, as follows:

Sixth, on the Baker pond brook, in the northeast corner of the town.

Seventh, at the southeast corner.

Eighth, now occupied, on Michael stream, three miles or more east from the village, where a saw mill and lath machine are now run at good advantage.

Ninth, a mile below this, in a dense forest, a beautiful waterfall, where at a very small expense some twenty-five feet perpendicular fall may be obtained, and a few rods above some forty or fifty acres of meadow land may be flowed, forming a reservoir sufficient to sustain a mill of eight or ten horse power some six months or more per year, and some seasons giving a constant supply the year round. It is about three miles distant from Solon village, in a southeast direction, near the centre of the town, on Michael stream, and is surrounded with lumber sufficient to wear out one mill or more.

The power on Fall brook is, as a whole, only partially occupied; if suitably improved it would do a great amount of business and give employment to a great number of hands.

"Solon village is the centre of trade for a part of Embden, Concord, Bingham, Brighton, Athens and Madison. It contains two meeting houses, three school houses, 150 scholars, 275 families, and about four hundred inhabitants. Something like $100,000 worth of goods are sold annually from about fifteen shops and stores. The best grist mill there is in the State, that grinds not less than 20,000 bushels of grain per year; two saw mills cutting about 500,000 feet of long lumber, with three shingle machines and two lath saws, cutting 1,000,000 of short lumber; two separate establishments for cloth dressing, which card about 25,000 pounds of rolls and dress 6,000 yards of cloth annually; three blacksmith's shops, shoeing 3,000 horses yearly; two planing machines, and one tannery.

Solon will very soon, doubtless, be connected by rail with the other railway lines of the country, the matter now being vigorously pushed.

SOMERVILLE—LINCOLN COUNTY.

Digested from Selectmen's Returns.

NINE POWERS

Two small powers on Travel stream, with stave and shingle mills thereon.

Three powers on Lovejoy stream, upon each of which there have been saw mills: only one of these is now in operation, there not being sufficient lumber to employ all three. Would saw 100,000 of lumber yearly.

Three small powers on small streams, shingle machines thereon.

One power on Sheepscot river near the centre of the town; height of fall twelve feet in a running distance of fifty rods; properly managed with a tight dam it would saw 200,000 of boards per annum and keep the grist mill upon it in operation throughout the year. Grist mill has three runs of stones.

The stream is connected with a small pond a mile long and half a mile wide, in the town, and with the various ponds above in other towns. The mill pond is two miles long and half a mile wide. Freshets harmless by reason of the size of the pond. Two bridges once injured by the giving away of a dam.

Rocks suitable for mill purposes close at hand; land rocky. Market, the Kennebec towns and Portland by road.

SOUTH BERWICK—YORK COUNTY.

Digested from the Returns of Edw. S. Goodwin, Esq.

THREE POWERS.

First, "Quamphegan Falls," on the Salmon Falls river, which here meets the tide-waters of the Piscataqua.

These falls are owned and occupied by the Portsmouth Company, whose works, besides other necessary buildings, consist of a four-story brick cotton mill of about 7,000 spindles, using about 1,300 bales of cotton, and turning out annually about 2,000,000 yards of cotton sheetings.

This company was incorporated in 1831, and the factory erected and put in operation in 1632, since which time the hydraulic power of the company has been greatly enlarged by the erection of a substantial dam, raised eleven feet higher than the old dam, and 275 feet in length, giving a head and fall of nineteen feet above high

water mark in the Piscataqua river at ordinary high tides, and affording a surplus power sufficient to drive 20,000 additional cotton spindles.

This, the main branch of the Piscataqua river, naturally afforded a copious supply of water; but its hydraulic power has been immensely augmented by the operations of the Great Falls Manufacturing Company on the river and its branches, by converting into reservoirs several large ponds which discharge into it, and which in the aggregate, cover an area of 3,758 acres, and which reservoirs may be drawn down at pleasure, on an average, ten feet, thus insuring an ample supply of water at all seasons of the year. The power is used only in part.

Second, "Newichawanick Falls," on Great Works river, about a mile above its conflux with the Salmon Falls river. The total height of the fall is sixty feet; the descent is divided into three pitches by as many dams; upon these dams are two woollen mills with ten sets of machinery, and one saw mill.

The power is reckoned equal to 600 horse. The supply of water is ordinarily good. The river is connected with several small ponds. Privilege and improvements owned by the Newichawanick Company. The power is not all used.

Third, at the junction of the Great Works and Salmon Falls rivers, "Yeaton's Mills"; dam seventeen feet high; saw mill, grist mill, plaster mill; power estimated at 250 horse. Power used only in part and superior facilities for further improvements.

The above privileges are situated in close proximity to the Boston and Maine, Portland, Saco and Portsmouth, and the Great Falls and Conway Railroads, and have accordingly superior facilities for transportation.

SOUTHPORT—LINCOLN COUNTY.

Statement of Selectmen.

TWO POWERS.

Both are tide powers. One is capable with improved machinery of running two saws and a grist mill, the other with the best machinery will operate a saw mill and grist mill. Neither is improved.

South Thomaston—Knox County.

Digested from Selectmen's Returns.

ONE POWER.

The "Weskeag River Tide Power"; width of stream at the mill is 320 feet; power estimated at about 400 horse.

A good stone dam; grist mill, stave and heading mill in operation; grist mill could grind 50,000 bushels per annum; two runs of stones. The stave mill and heading machine employ eight men and saw four to five cords wood per twenty-four hours; 1,200 cords wood about one year's stock.

Mills run the year round, and less than half the power is improved. Machinery is of good construction; the wheels are iron of the Union patent.

Power owned by the Weskeag Mill Company, and all or a part for sale, or the balance of the power not occupied. The dam ponds the water back two miles and covers about 200 acres.

Quarry of granite easy of access by land or water, good for building purposes; very convenient location for mills and shops. Vessels can come alongside the mill and discharge cargo. A good chance to put in a flour mill and good market to sell in. The product of the stave and heading machine for the past year is about $22,000. The stave mill and heading machinery are new, have run about eighteen months and have furnished a large amount of business to residents.

Market, Rockland, by water or land.

Springfield—Penobscot County.

[See Appendix.]

Standish—Cumberland County.

Digested from Selectmen's Returns.

[See also "Standish and Windham"; "Limington and Standish."]

SEVEN POWERS.

First, "Paine's Mill," on the outlet stream of Great Watchic pond; fall, twelve feet.

Second, "Rich's Mill," on a book tributary to the Sebago Pond; fall, fourteen feet.

Third, "Dow's Mill," on Josey's brook; fall, twelve feet.

Fourth, "Dresser's Mill," on Josey's brook; fall, ten feet.

Fifth, "Shaw's Mill," on Shaw's brook; fall, —— feet.

Sixth, "Moody's Mill," on Stickey river; fall, eight feet.

Seventh, "Blake's Mill," on Josey's brook; fall, ten feet.

The above powers are all small, the chief powers being upon the boundary rivers of the town.

The total production of all the mills in Standish, including those upon the Saco and Presumpscot, is in value not far from $300,000.

Rock, granite; lay of the land, about the chief falls, excellent; proprietors will aid in a survey. Three-fourths of the basin of the streams covered with woods.

STANDISH AND WINDHAM—CUMBERLAND COUNTY.

Digested from the Returns of the Board of Selectmen.

[See also "Standish"; and "Windham."]

ONE POWER.

"Lindsey's Mill," on Presumpscot river, at the head of the Cumberland and Oxford canal; height of fall not given, but the power is spoken of as an important one. The supply of water is of course constant and large, being derived from Sebago lake and its tributaries. Owned by William H. Jackson, Salem, Mass.

STARKS—SOMERSET COUNTY.

Digested from Selectmen's Returns.

[See also "Mercer and Starks."]

FIVE POWERS, AND MORE.

First, on Lemon stream, "Sawyer's Mills"; cut 200,000 boards per annum; 200,000 shingles, besides laths and pickets; grind 5,000 bushels grain; could grind 25,000 bushels. Operate eleven months of the year for grinding; for sawing, spring and fall. The fall is five feet in five rods.

Second, "Lemon's Mills," on Lemon stream; four feet fall in four rods.

Third; on the same stream.

Fourth and Fifth; on Chase's Brook.

There are several others, on the above streams, not occupied. The fall is rapid, for a considerable distance, at each of the privileges. The streams are much swollen by freshets.

Suitable stone for building; "blue ledge." Land on the falls, level and dry. Small part of basin covered with woods. Mills have been profitable to the owners, and extremely convenient for the public; villages have sprung up around them.

Market, Skowhegan, by road, and home market.

STETSON—PENOBSCOT COUNTY.

[See Appendix.]

STEUBEN—WASHINGTON COUNTY.

Digested from the Returns of J. D. Parker, Esq., Endorsed by the Selectmen.

SIXTEEN POWERS.

Fourteen of these are situated upon the Tunk river, which is fed by ponds whose aggregate surface is not less than fifteen square miles, and which are all susceptible of improvement as reservoirs. The river empties into one of the most magnificent harbors in the world; has sufficient water at low tide to float the largest vessel ever constructed, and excellent and ample holding ground.

First, "Head of Tide Power," a few rods from the wharves; eight feet head; gang saw mill, which cuts 30,000 of lumber per day.

Second, a short distance above the first, not now occupied; formerly occupied by saw mill and grist mill.

Third, a short distance further up; shingle mill and grist mill on a wing dam.

Fourth, about 150 yards above tide; not improved. A dam, if constructed here, will flow about 200 acres. The whole fall to the tide is about twenty-five feet; may be made thirty by a dam. By means of a canal the whole series could be converted into one large and valuable power. A bridge here.

Fifth and Sixth, about one and a half miles above, on the "Rips"; not now improved; formerly a saw mill.

Seventh, about one and one-fourth miles above, a dam; shingle mill, etc.

Eighth, twenty rods further up, a dam; shingle mill, stave mill, spool mill, etc. A bridge here.

Ninth, a mile and one-half above; not a very good power, as a great length of dam would be required.

Tenth, outlet of Round pond; formerly a mill; high banks on the pond.

Eleventh, eighty rods up the river; formerly a mill, now burned down.

Twelfth and Thirteenth, just above, eight feet head each; no improvements.

Fourteenth, a short distance above, the "Lath Mill."

Fifteenth and Sixteenth, on Whitten stream, in the east part of the town; formerly a saw mill upon one and saw mill and grist mill upon the other; the latter partly aided by tide. A good power for a last factory, shovel-handle factory, or something of the sort.

Abundant stone near each of the privileges for rough construction, and a quarry of beautiful granite near the mouth of Tunk river. A bed of clay, for bricks, at the water's edge; can be put directly from kilns into vessels. With one exception the required dams can all be short. Privileges can all be bought very cheap.

The power is very constant on Tunk river, being supported by ponds; freshets of course harmless; total range of water not over four feet. There are about 2,500 inches under an eight foot head; if the water were economized, there would be considerably more the year round. A small proportion of the power employed.

Wheels, spiral-vent, Wakefield centre-vent, a powerful wheel; Atkins wheel.

Proprietors will aid in a survey; town will exempt from taxation for ten years $50,000 invested in manufactories.

Market, all points, by sea.

STOCKTON.—WALDO COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, The "Tide-Mill Power," at Stockton village; fall about eight feet. Upon this power it is proposed to erect, and to have completed within a year from this time, a saw mill, shingle mill, block shop, grist mill and sash, door, and blind factory. Much addition to the property and business of the town is anticipated from this enterprise.

Second power, "Perkins' Mill," at Sandy Point; stream small, but never-failing; a carding and cloth dressing establishment upon it; fall about eight feet.

Third power, "Roberts' Mill," on Seavy stream; fall eight feet; saw mill and shingle machine; works about eight months of the year.

STONEHAM—OXFORD COUNTY.

[See Appendix.]

STOW—OXFORD COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

Both are situated upon Little Cold river. The height of one fall is ten feet, attained in ten rods. On this fall are a saw mill and grist mill. The other fall is seven feet in 150 rods. On this fall stands a shingle and clapboard mill; mills operate about three months in the year; annual net profit probably not in excess of three hundred dollars.

STRONG—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, "Pierpole Falls," on Sandy river; fall about twelve feet in eighteen rods; would run two up-and-down saws and one gang eight months of the year; unimproved; the mill swept away by a freshet.

Second and Third, on northeast branch of Sandy river, "Porter Falls," "Morton Falls"; eleven or twelve feet fall in fifteen or twenty rods.

Fourth, on McCleary stream; fall as above. Improvements, two saw mills, grist mill, clover mill, planing mill, batting mill, starch factory, shingle mill; operate generally part of the year, some of them all the year.

Small lakes and ponds; limestone rock; one-half of the basin wooded; improvement of the power has largely built up Strong village.

Market, Farmington depot.

Sullivan—Hancock County.

Digested from Selectmen's Returns.

NINE POWERS, OR MORE.

First, etc., on Flander's stream; three stave mills, one shingle, and one circular saw mill; two or three privileges not occupied; water year round supplied by a pond; head from ten to twenty feet; lower mill distant from salt water about 100 rods; lumber growing scarce; excellent power for manufacturing purposes; owned mostly by Messrs. Halls & Cooper.

Fourth, Fifth, etc., on Morancey stream; one carding and fulling mill, one stave and one saw mill. A number of sites for mills not occupied; water low in drouth of summer.

Eighth, on Gordan's stream; carding and fulling mill; water most of the year; good privilege for light manufacturing purposes.

Ninth, on Simpson's stream; one grist and one lath mill combined; water low in dry weather.

Sumner—Oxford County.

Digested from Selectmen's Returns.

FIVE POWERS.

First, at Jackson village, West Sumner, on the outlet of Pleasant pond; grist mill, saw mill, shingle mill, carriage factory, rake factory, and machinery for making hand-sleds. Mills and machinery owned by Morton & Bates, who employ thirty or forty men. Grist mill operates the whole year, the other machinery not the whole year.

Second, "Powder Mill," on the west branch of the Twenty-Mile river, near the south part of the town.

Third, on the east branch of Twenty-Mile river, at Sumner flat; a grist mill, shingle mill, saw mill.

Fourth, on the outlet of Labrador pond; a saw mill and grist mill.

Fifth, on the outlet stream of Shay pond, in the northwest part of the town; a saw mill, grist mill, shingle mill, and clapboard mill; the pond is in Woodstock.

SURRY—HANCOCK COUNTY.

Digested from Selectmen's Statement.

NINE POWERS.

All of the above are situated upon the outlet stream of the Upper and Lower Patten's ponds; said ponds have a surface of 3,800 acres. It is some four miles from the lower pond to the sea-shore, the descent in that distance being, as is estimated, 212 feet.

Within this distance of four miles there are nine mill sites, none of them having a "head and fall" of less than eleven feet, and one having a fall of thirty feet, fifteen feet of which are perpendicular and at a point where the stream is but twenty-two feet wide. It is located at a point easy of access, and is one of the best unoccupied privileges in the State.

Three of the sites only are occupied, for the reason that the stream has been owned by the Jarvis heirs, who have never been ready to sell; it is now in the market.

We can give no accurate estimate of the power or number of square inches of water; suffice it to say there is water enough and at all seasons of the year. By constructing a dam some miles below the lower pond, at the foot of a vast meadow, a reservoir at small cost could be made to hold an unfailing supply of water during the severest drouth.

Patten's bay, one of the best of harbors, is the outlet of said stream.

Hon. Charles J. Abbott, Castine, is the agent for the Jarvis heirs.

The Selectmen personally examined this stream and took measurements, but being doubtful of the accuracy of some of them have concluded to withhold them all and submit a general rather than a detailed statement.

SWAN'S ISLAND PLANTATION—HANCOCK COUNTY.

Digested from Assessors' Returns.

TWO POWERS.

One is on the eastern side of the island, and has in times past, carried a small grist mill during the rainy season.

The other four are at what is called "Cold Harbor"; and the fall is the ebb and flow of the tide, (ten to fourteen feet), into and out of a pond containing a surface of about forty acres. This power was once

used to carry a grist mill and saw mill; but now vessels pass through the dam drawing twelve feet of water.

No part of the power is improved. Market, all points by water.

SWANVILLE—WALDO COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, "Swanville Mills," on the outlet stream of Swan lake; (Goose pond on the State map), fall, ten feet; stone and cement dam; saw mill owned by the Belfast Paper Mill Company, and worked only when the paper mills need water, the lake serving as a reservoir to said mills. Power sufficient to drive an up-and-down saw all the year. The lake is a large reservoir, contains four or five square miles.

Second, "Nickerson's Saw Mill," on Dead brook; fall, about seven feet; can operate about half the year.

Third, "Mardin's Privilege," on the same stream; unimproved; fall, nine feet.

No damage from freshets; Swan lake rises and falls about four feet. Two small ponds, also, connected with the streams.

There is no ledge near either dam; dams are built in "pin" gravel; basin one-fourth wooded.

"The Swanville mills since they have passed into the hands of the Paper Mill Company, have been worthless to this place." Annual products of the powers, $600.

Market, Belfast, by road.

SWEDEN—OXFORD COUNTY.

Digested from Selectmen's Statement.

TWO POWERS.

First, the "Stearns Pond Privilege," has a fall of twenty-five feet in fifty rods; the power is not improved. There is an old dam and formerly were a saw mill and grist mill; it is capable of running a grist mill all the year and a saw mill half of the year.

Second, "Keyes Pond Privilege," has a fall of 150 feet in a running distance of seventy-five rods; power not improved; an old dam upon it; no buildings; estimated equal to the above mentioned power.

Both streams connected with ponds, which could be raised three or four feet at trifling expense. The rocks are coarse granite, suitable for building purposes; lay of the land excellent for the erection of mills.

Market, Portland, by Grand Trunk Railway from South Paris.

TEMPLE—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, on a branch of Temple stream, a saw mill which cuts 20,000 a year, but might four times that amount; stream quick, and has from ten to twelve feet fall.

Second, on another branch, between two small ponds; the pond above the privilege is called the Staples pond, and might be made to hold considerable more water at small expense. The privilege is not in use now; formerly was employed for threshing grain.

Third, on the main Temple stream at "Temple Mills"; a grist mill and saw mill; height of falls about eleven feet; the grist mill runs the greater part of time the year round; the saw mill contains an up-and-down saw, a clapboard saw, lath saw and planing machine; saws from 200,000 to 250,000 per annum; saw mill operates in general not more than six months in a year.

Fourth, also situated at Temple mills, a very good privilege but not now used; formerly a starch factory.

Fifth, about one-fourth of a mile below the mills; one run of mill-stones, a threshing machine, a rake factory, lath machine, shingle machine, etc. Mill is carried by a canal, and the height of the fall is ten or twelve feet.

THOMASTON—KNOX COUNTY.

[See Appendix.]

THORNDIKE—WALDO COUNTY.

[See Appendix.]

TOPSFIELD—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, "Eaton's Privilege," on East Musquash stream; fall, ten and a half feet in thirty rods; fed by Musquash lake, two and a half by one miles; not improved. Mills saw six months, or grind twelve.

Second, "Farrer's Mill," on Farrer's stream, the outlet of Farrer's lake; fall, sixty-six feet in two hundred rods; a saw mill which supplies local demand; operates six months. Lake two by one-half miles.

A dam at the outlet of Musquash lake flows seven feet for log-driving purposes. Dams can be built cheaply on Farrer's stream. Total range of water never over three feet.

Three small powers; no details.

TOPSHAM—SAGADAHOC COUNTY.

Statement of Warren Johnson, Esq.

[See also "Brunswick and Topsham."]

FOUR POWERS.

These are all situated upon Cathance river; the lower is of considerable size and volume, the others are small.

TREMONT—HANCOCK COUNTY.

Digested from Selectmen's Returns.

TEN POWERS, AND MORE.

First and Second, on "Heath's Stream," the outlet of Seal Cove pond, and emptying into Seal Cove, a convenient and safe harbor. Upon one is a mill for manufacturing long lumber, shingles, clapboards, and staves; upon the other is a grist mill. The productions of these mills can be shipped without the expense and inconvenience of trucking. The estimated amount of annual lumber produced is about 250,000, exclusive of staves, of which are produced several hundred thousand; with proper machinery much more could be done. Total height of the falls on this stream is about forty feet within a horizontal distance of one-fourth of a mile; two dams; mills work about three-fourths of the year; two or three months during the summer or dry season they are stopped for want of

water, but with proper improvements could be run the whole season. Heath's stream is connected with two ponds. Formerly there was a carding and fulling mill on this stream, working successfully, but was worn out and suffered to go to ruin by the owner.

Third, Fourth, etc. There are other privileges on Heath's stream which have never been improved. The water could be carried along the banks in flumes with but little expense; said stream is narrow and runs over a rocky bed and between ledgy banks; the eastern bank is very high, while the western is not too high for the convenient erection of mills; it is but little affected by freshets, never enough to cause damage to dams or mills. All along the eastern shore of the ponds and on the slopes of the mountains near the ponds are forests of spruce, fir, and pine.

Fifth, Sixth, etc., on Bass Harbor stream; shingle mill which operates about six months in the year. The stream is about five miles in length and has a fall in the whole distance of about sixty feet; there are several points in its course at which improvements could be made so as to run successfully machinery for the manufacture of small lumber.

Seventh, Eighth, etc. There are several large brooks in this town with sufficient power to run machinery for the manufacture of shingles, laths, clapboards, staves, &c.

Ninth, Tenth, etc. There are also in this town several privileges for tide mills, none of which are improved.

Township No. 2, R. 3—Aroostook County.

No Endorsement.

ONE POWER.

Wytopitlock falls about a hundred rods below the Wytopitlock lake; height of the fall, ten feet in ten rods.

Good circular board saw, clapboard and shingle machine; a grist mill is needed very much.

The power being fed by a lake, four by two miles, is constant throughout the year. It can be made to saw 3,000,000 feet annually with ease. Only a part of the power is used; freshets entirely harmless.

Good rock for building. The whole country above the mill is an

unbroken forest of the best of lumber. It has built up an incorporated town out of the wilderness in five years.

Market, Bangor, for short lumber; the country above for long.

Township No. 5, R. 2—Oxford County.

From the Statement of John H. Wilson, Esq., of South Columbia, N. H.

SEVERAL POWERS.

"Ariscoos Falls," on the Magalloway river, are situated near the centre of the township, extending along the river nearly two miles. Mills have been built at the foot of the falls; but are now gone or dilapidated. The dam, at this point, can be raised to the height of fifteen feet, if necessary.

About a mile above the dam is a sudden pitch of eight or ten feet with a ledge on the right bank and bottom, and a steep bank on the left, admitting a head and fall of about eighteen feet, with an opportunity for a canal below on either side.

Near the head of the falls the river drops eighty or ninety feet in sixty or seventy rods, an island extending that distance, which leaves a broad deep gulch along the right bank. On this bank a canal can be made, on one level, for more than half a mile, and the dam at the head of the island can be built at small expense.

At the head of the falls, sixty or seventy rods above the island, a dam eight feet high would check the water of the river more than twenty miles above, and could be raised to any desired height by winging a short distance on each side.

"The Magalloway is, probably, about one-third larger than the Little Androscoggin." A bridge crosses the river at the foot of the falls.

Township No. 2—Penobscot County.

[Next south of Burlington.]

Digested from the Statement of J. W. Porter, Esq., of Burlington.

ONE POWER.

The "Grand Falls," on the Passadumkeag river; total descent 125 feet in 200 rods; several mill sites in the distance. The main fall at the foot of the series twenty-five feet descent; no part of the power is improved.

The power is fed by the whole volume of the main Passadumkeag river and by the following lakes, all within twenty-five miles of the falls: Nicatous lake, twelve by three miles; Garbeus lake, three by two miles; Duck lake, three by two miles; West lake, three by one miles; the Pistol lakes, Spencer pond, Porter pond, etc., etc.

Substantial dams already built at the outlets of several of these ponds for lumbering purposes, and dams can easily be constructed at any of them. Lay of the land excellent for the location of mills, especially at the lower falls. Proprietors are disposed to have the power surveyed in part at their own expense. Rocks in the vicinity, granite abundant and good; entire basin of the stream covered with forests. Proprietors of the power, Thomas W. Porter and R. R. Porter, Burlington.

There is a settlement near the falls of about a hundred inhabitants, mostly farmers. Soil in the region good. A county road has been laid out from Burlington to the falls and is now well nigh completed. The falls are within three miles of the proposed Milford and Princeton turnpike.

Township No. 5, R. 7—Penobscot County.

From the Statement of G. H. Davis, Esq., of No. 6.

ONE POWER.

"Outlet Falls," at the outlet of the lower Shin pond; a dam, seven rods long, would raise a head of ten feet on the lake, and flow about 1,600 acres; pond is fed by the upper Shin pond in Monterey plantation. This is five miles from the Great falls below, on the Shin pond stream.

Township No. 6, R. 7—Penobscot County.

Digested from the Statement of G. H. Davis, Esq.

THREE POWERS.

The "Great Falls," on Shin Pond stream, the outlet of the Shin ponds, which cover nearly four square miles.

The falls are divided into three pitches, first two ten feet each, the third thirty-five feet in about a hundred feet. A dam at the head of the first pitch would raise the head five feet more, giving sixty feet fall in a little over one hundred feet run.

The powers are owned by Fisk & Dale.

Township No. 9, R. 4—Washington County.

From the Returns of Calais.

SEVERAL POWERS.

The Chiputneticook Grand Lake stream, connecting Chiputneticook Grand lake with Chiputneticook lake, is about three miles long. It has in that distance a fall of sixty feet. At the outlet of Grand lake there is a great dam, upon which a large tannery was built about three years ago, and about which quite a large settlement has clustered. There are undoubtedly several sites on this stream susceptible of improvement and use for power purposes.

Township No. 14—Washington County.

Statement of T. W. Allan, Esq, of Dennysville.

First, "Long Rips," on Cathance river, one-half mile above the south line of the township, one mile long; fall, estimated at fifteen feet; chance for a dam, at the head ten feet high; no improvements; dam would make large pond, two miles long.

Second, three and a half miles above, "Upper Rips," a hundred rods long, eight feet fall, not including the dam at the outlet of the lake.

Third, "Outlet Dam," six and a half feet head on the lake, 4,000 to 5,000 acres.

Trenton—Hancock County.

Selectmen's Statement.

ONE POWER.

A tide-mill that does some business at sawing boards, staves, and herring boxes.

There is no fresh-water-power in town of sufficient volume to warrant the construction of dams.

Trescott—Washington County.

[See Appendix.]

Troy—Waldo County.

Digested from Selectmen's Statement.

TEN POWERS.

First, at the foot of Carlton bog, so-called. Said bog or pond contains about 1000 acres and has five important tributary streams.

At the outlet of the bog are the "Carlton Mills"; saw mill, shingle mill, clapboard mill, grist mill; saw mill cuts, on an average, 300,000 of lumber, shingles 350,000, clapboards 30,000; grist mill 1,600 bushels with one run of stones; head and fall thirteen feet. With a tight dam four times the present business might be done. With small expense there might be an upper dam built to raise the head four feet and flow from 2,000 to 3,000 acres, making power for any business.

Second, thirty or forty rods below the mills is a chance for another dam, eight or nine feet of head, with good location for mills, and easy of access; hard bottom and sides; rocks plenty.

Third, about one mile below, falls sixty or seventy rods long with a chance for machinery.

Fourth, the "Myrick Falls," in southwesterly part of the town; a saw mill, cuts per year about 150,000 board measure; head and fall about twelve feet; mill runs four or five months in the year; water sufficient for nine months; good farming lands up to the edge of the pond; hard bottom.

Fifth, fifteen or twenty rods below, a shingle machine, cuts about 300,000 per year; could run three-fourths of the year; a chance for more machinery.

Sixth, a chance for more machinery further down the stream.

Seventh, on Martin stream; a saw mill, cuts 150,000 board measure; a shingle mill, cuts 150,000 per year; might do a great deal more; could run nine months in the year.

Eighth, a privilege below, full as good, with hard bottom; land around good for farming.

Ninth, a clover mill on the Shaw brook, near the centre of the town; ten or twelve tons of seed per year; runs about six months per year; head and fall eleven feet; could do a great deal more business by building dams; good farming land all about; edges of pond and stream hard bottom; plenty of rocks for all purposes.

Tenth, about one-half mile below, a shingle machine, cuts 200,000 per year; could run eight months per year; bottom hard; good farming land. Considerable timber left.

TURNER—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

[See also "Greene and Turner"; and "Leeds and Turner."]

SIX POWERS.

First, on the Martin stream, at the outlet of Bear pond, a saw mill capable of manufacturing from 500,000 to 600,000 feet of lumber annually; fall, about ten feet.

Second, at North Turner village three-fourths of a mile below the above power; lumber, grist and carding mills; also, carriage-factory. This power would cut from 800,000 to 1,000,000 feet of lumber annually; fall, about ten feet.

Third, "Chase's Mills"; a saw mill, shingle mill, and hub and bowl factory.

Fourth, at Turner village, on the Twenty-mile river, a woollen factory, grist mill, lumber mill and carriage factory. Fall, about twelve feet; all the mills doing a large amount of business.

Fifth, at Bradford village, on the same river, unimproved; fall, twelve feet; if properly improved would do a large amount of business.

Sixth, at the mouth of the Twenty-mile river; fall, eleven feet; one lumber mill and a grist mill; power enough to do a large business.

The machinery in operation in this town, with the exception of the woollen factory and grist mill at Turner village, is not of the best construction for economizing power; several different forms of wheels in use. Plenty of good clay for brick.

UNION—KNOX COUNTY.

Digested from the Statement, and from a Plan of the Water-Power, furnished by William Gleason, Esq., Surveyor.

[The survey was made and the plan constructed under the auspices of the town authorities for the express purpose of this Report.]

TWENTY POWERS.

Four of the above are situated on Crawford's river, the outlet of Crawford's pond and tributary to Seven Tree pond. The distance from pond to pond is 152 rods, and the declivity or fall seventy-three feet seven and one-half inches.

First, privilege nearest the outlet; fall twelve feet; cabinet shop, $5,000 annual product.

Second, stave mill, eight feet fall.

Third, eighteen feet fall, foundry, saw mill, shovel factory, axe factory; product first $3,000, second $175.

Fourth, machine shop, ten feet fall; twenty-five feet eleven inches not occupied.

The ponds which find their outlet at this place are judged to cover an area of more than 2000 acres, none of which have any artificial works for reservoiring water except Fisk & Lermonds, and these are used as mill sites rather than reservoirs. The privileges on Crawford's river are not subject to sudden rise of water and are among the best in this section to hold out in the dry season of the year. The outlet of Crawford's pond is only about forty feet wide, and a dam could be easily constructed, costing but little, and the flowage of meadow would not exceed seventy-five acres. The privileges Three and Four have rock banks and bottom. A section of the stream was taken nineteen feet nine inches long and twenty feet wide, depth in the middle twenty inches and sides twelve and one-fourth inches, and the velocity was found to be six seconds in the distance, (nineteen feet nine inches.) The above described power is situated in South Union, and is known as the South Union water-power.

The next two powers are situated on the St. George river, below Senebec and above Round pond. The declivity from Senebec pond to the falls at Bachelder mills, measured to the bed of the river, near to, and on the west side of the flume at the grist mill, is forty-nine feet eleven and one-half inches A section of the river was taken fourteen rods and ten links long, and five rods twelve and one-half links wide, average velocity of current three minutes and twenty-three and one-third seconds; depth, two feet in centre. The distance from the pond to the falls named above is 514 rods.

Fifth, at the outlet of Senebec pond; saw mill, a grist mill, stave and shingle mill, and carriage factory, all of which produce $1,700.00 annually.

Sixth, below the Fifth; a tannery, $5,000; carriage factory, $5,000; Messrs. Simmons, Wingate & Co.'s carriage factory produces $20,000; a saw mill and grist mill, which produce annually, $860.

The natural reservoirs of these privileges are Senebec pond in

Union and Appleton; Quantabacook pond, in Searsmont; Stevens' and George's ponds in Liberty, which have an area of more than 1500 acres, none of which are used exclusively as reservoirs. The mills on Nos. Five and Six are run most of the season, and they are enabled to grind, even in the driest seasons, some portions of every day; and, if the ponds above referred to were flowed, the power might be quadrupled.

The next four powers are situated on Easton stream, the outlet of Lermond's pond, and tributary of Crawford's pond. The declivity was found to be 158 feet, and the distance 583 rods. We could not take the velocity or amount of the water, as the owners were drawing off in order to repair; but, from our knowledge, should judge it to be about three-eighths as much as is vented by Crawford's river.

Seventh, at the outlet; saw and stave mill; $515 annually.

Eighth, grist mill and stave mill; $700 annually; also cabinet factory.

Ninth, stave mill and threshing machine.

Tenth, saw mill, $200 annually. The fall improved on No. Seven, is nine feet; on No. Eight, is sixteen feet; on No. Nine, is eight feet; and on No. Ten is ten feet; leaving on Eastern stream 115 feet unoccupied. This location is known as East Union.

Eleventh, on Pettengill stream; the total descent from the dam, at the foot of the meadows to the meadows below, is sixty-two feet two inches in seventy rods. Privilege No. Eleven appropriates nine feet only; occupied by stave and shingle mill. Took a section of the stream twenty-five feet long, and five and one-half feet wide, seventeen inches deep in centre, velocity five seconds. This stream has no ponds as reservoirs, but a large area of meadows is flowed from fall until spring, which makes this a good privilege at the seasons specified; some business is done here even in the dry part of season, from June until August.

Twelfth, located on Grassy pond stream; fall of ten feet; $250.

Thirteenth, situated on Muddy Pond stream; fall of twelve feet; $400.

Fourteenth, on same stream; ten feet fall; $375.

Fifteenth, on the same stream; a fall of eight feet; $300.

Sixteenth, located on Medomac stream; fall of ten feet; the mill in a poor condition with very little production yearly.

Seventeenth, on the same stream; fall of eight feet, and an annual income of $500.

Eighteenth, on the same stream; fall of thirteen feet; $375.

Nineteenth, on the same stream; fall of eight feet; mill in a very poor condition; no income.

The mills on Crawford's and George's rivers operate nearly all the year at present; can be made to do a vast amount of business at all seasons. Rocks suitable for building abundant at all points; one-eighth of the basin of the streams covered with woods; lay of the land about the falls excellent for improvement. Market, Rockland and Thomaston, by road.

UNITY—WALDO COUNTY.

[See Appendix.]

UNITY PLANTATION—KENNEBEC COUNTY.

[See Appendix.]

UPTON—OXFORD COUNTY.

Digested from Selectmen's Returns and information furnished by E. S. Coe, Esq., of Bangor.

NUMEROUS POWERS.

The "Rapid River Falls," on Rapid river, which connects Umbagog lake with the great lakes above. There are a large number of mill sites; the banks are good; rock abundant; the supply of water inexhaustible, the stream being fed by eighty or more square miles of lakes, all of which have dams at their outlets for husbanding water, commanding an average head of eleven feet. The dams are used, at present, only for log-driving purposes. The total descent, from lake to lake, is 200 feet in five miles, and the stream may be regarded as a continuous series of mill privileges of the highest excellence, from end to end.

One power, the "Sluice," on the Dead Cambridge stream, six miles from inhabitants; fall ten feet.

One on the Swift Cambridge stream, near the Andover road.

"Abbott's Mills," on the Main Cambridge; dam fifteen feet; saw mill, clapboard mill and shingle machinery; grist mill, two runs of stones, and starch mill. Saw mill operates springs and falls; grist mill all the year.

Flutter and Centre-vent wheels.

Cambridge river has a pond at its head, one by one-half miles in extent; can be dammed from "The Sluice," up three miles; no damage from freshets, nor ever need be; good rock for building on all the privileges; lay of the land excellent. The water-powers were the cause of the settling of the town.

Market, Bethel, twenty-six miles by road. Power owned chiefly by Hezekiah Winslow, Esq., of Portland.

Van Buren Plantation—Aroostook County.

Digested from the Assessors' Returns.

TWO POWERS.

First, "Hammond Mill," on Violette brook; fall ten feet; saw mill of the best construction and best machinery; saws 700,000 clapboards, 2,000,000 shingles, and 400,000 boards yearly; also laths, as many as are required; room and power for more mills; Stevens' wheel used and much liked; mill operates all the year except in winter.

Second, one-fourth mile below the first; fifteen feet fall; grist mill upon it, three runs of stones; operates all the year; mill in bad repair; new one erecting; overshot wheel.

No natural lakes or ponds; artificial reservoirs can be constructed; mills perfectly safe from freshets; abundant water.

Rocks, slate, good for building; lay of the land good; proprietors will not aid in a survey; 1,000,000 acres of the basin of the stream covered with forests.

The improvement of the power has created a thriving and a growing village out of nothing but rocks and water in ten years time.

Market, Fredericton and St. John, N. B.; also Boston, New York, and all coastwise points, by the St. John river.

Vanceboro'—Washington County.

Digested from the Returns of Calais.

ONE POWER.

The St. Croix Log-driving Company have erected a dam at the outlet of Chiputneticook lake, and last year, (1866), held a fifteen-foot head of water. The lakes, connected with this lake, are dammed so as to retain water.

VASSALBOROUGH—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

TWELVE POWERS.

Five are situated on the outlet stream of China pond; dam upon each; head and fall on each, about eight feet, attained in a running distance of twenty or thirty rods. The power upon this stream is nearly all employed in factories, saw mills, grist mills and shingle mills. The most important manufacturing establishment is the "Woollen Mill," of the "Vassalborough Mill Company." There are, moreover, a saw mill, two grist mills, one shingle-mill and a shovel handle factory on the same stream. The privileges are all within a horizontal distance of two miles.

The woollen mill and grist mill operate all the year; the others only in summer. The wheels employed are chiefly wooden. The improvement of the power has increased the value of the town nearly one-half.

Six are situated upon the outlet stream of Webber pond; each with a dam, and a head and fall of about eight feet in a running distance of twenty or thirty rods. These are now nearly all lying idle. Two of these formerly drove paper-mills, and one a sash and blind factory. All the powers on this stream are within a total distance of one and a half miles.

The twelfth power is on a stream flowing into Webber pond.

VEAZIE—PENOBSCOT COUNTY.

From the Statement of the Selectmen.

TWO POWERS.

First, the "Upper Veazie Water-Power," on the Penobscot river, four miles above Bangor. Upon this privilege there are located two blocks of mills. The "Upper Block," so-called, contains two gangs of saws, six single saws, and a lath mill. The "Lower Block" contains one gang of saws, three single saws, one ——— saw, lath mill, clapboard and shingle mill. When all the wheels are running in the mills they vent, according to the area of the discharge of the wheel, about 13,500 square inches. The gates which let the water from the flume into the cylinders have a discharge of about three times the area of the wheels, making a total discharge of about 40,500 square inches. There are six and a half feet head of water from

top of waste dam to apron of mills; under freshets there are from ten to fifteen feet head in flumes, at low water about five feet.

Second, the "Lower Veazie Water-Power," on the Penobscot river; there is a fall of about six feet in this town from the apron of the aforesaid mills to the head of tide, at Eddington Bend, so-called; not at present occupied by any dam or mills.

All the above property belongs to John W. Veazie, Esq., and the mills are known as the Veazie mills.

VERONA—HANCOCK COUNTY.

Digested from Selectmen's Report.

TWO POWERS.

First, "Bennett's Mills," on a small stream at the eastern side of the town; fall about sixteen feet in six rods.

Second, two dams, one for reservoir purposes; a saw mill, with a sixteen-foot overshot wheel; one up-and-down saw, will cut 2,000 feet of boards in twelve hours; works about three months in the year.

Stream varies three or four-fold at different seasons of the year.

Market, Bucksport, by land or water.

VIENNA—KENNEBEC COUNTY.

Digested from Selectmen's Statement.

THREE POWERS.

First, at Vienna village, on a mill stream, the outlet of two small ponds; fall six feet; a shingle mill; formerly a shoe-peg factory.

Second, above the first, on the same stream, at the village; fall five feet; saw mill and shingle machine, which operate in time of high water, and cut the lumber used in the vicinity.

Third, on the same stream, above the second; grist mill; operates nearly all the year by careful husbanding of the water; fall six feet.

Boulders and some granite ledge.

VINALHAVEN—KNOX COUNTY.

[See Appendix.]

WALDO—WALDO COUNTY.

Digested from Selectmen's Returns.

FIVE POWERS.

First, the "Hawkins Saw Mill," in the northwest part of the town, with a pond of thirty acres; one up-and-down saw, and stave-mill; saws from fall to spring; fed by a brook.

Second, on the same brook, above, is the "Pitman Saw Mill," pond about one acre; one up-and-down saw; used from fall until spring, part of the time.

Third, in the northeast part of the town, "Johnson Saw Mill," runs from fall until about the first of June; fed by a pond of sixty or seventy acres; one up-and-down saw, stave mill, shingle machine; the pond is fed by the Wescott stream.

Fourth, on the same stream, above, is the "Holme Mills"; one stave mill, one saw mill, circular saw; operates from fall until about June; fed by a pond of fifty or sixty acres.

Fifth, on the same stream, the "Ellis Mill"; one up-and-down saw, stave and shingle machines; runs from fall until spring.

WALDOBOROUGH—LINCOLN COUNTY.

Digested from Selectmen's Statement.

TWELVE POWERS.

Eight of the above are situated on the Medomac river, which falls into tide water at Waldoboro' village.

First, "Sproul's," in Waldoboro' village; fall from ten to fifteen feet; runs a saw mill, grist mill, carding machine, plaster mill, planing machine, and iron foundry.

Second, "Soule's," in the village; fall from eight to ten feet; oakum mill, carding machine, and clothing mill.

Third, "Achorn's," about one-third of a mile from village; fall from thirty to forty feet; grist mill, and stave and shingle mill.

Fourth, "Winslow's," about three miles from village; fall about ten feet; saw mill, stave mill, and grist mill.

Fifth, "Wagner's" about four miles from village; fall about six feet; unoccupied.

Sixth, "Burns'," about six miles from village; saw mill, grist mill, and three stave mills.

Seventh, "Minks," North Waldoboro'; fall about six feet; stave and shingle mill.

Eighth, "Minks," North Waldoboro'; fall some six or eight feet; saw mill.

Ninth, "Weaver's," on a small stream which has no name, about five miles from village; fall some eight feet; stave and shingle mill.

Tenth, "Benner's"; we do not know the name of the stream; about five miles from village; fall not reported; saw mill, and wo stave mills.

Eleventh, "Burkett & Feyler's," on "Slago Brook," (so-called,) about two miles from village, and about three miles from salt water; stave mill, shingle mill.

Twelfth. There is another small power very near the salt water and navigation, formerly occupied, but not now; fall some four or five feet.

We have no means of knowing how much work any of these powers will do.

WALES—ANDROSCOGGIN COUNTY.

Selectmen's Returns.

ONE POWER.

On a brook, where some little sawing is done, during the spring snow meltings, and during the season of freshets.

WALTHAM—HANCOCK COUNTY.

[See Appendix.]

WARREN—KNOX COUNTY.

Digested from the Statement of C. T. Bean, Esq.

TWO POWERS.

On the St. George river, at the village, the "Factory Fall"; woollen factory, which employs forty hands, nice grist mill, saw mill, shingle mill, stave mill, etc.

One-third of a mile above, the "Knox Falls"; height of fall, seventeen feet four and three fourths inches. Improvements; a nice dam, saw mill and powder mills; power is owned by Hodgman & McCallum.

The stream is connected with eight or ten ponds in the vicinity, in addition to the large number lying about its head waters. These

ponds empty into the river above the falls and are susceptible, at small expense, of indefinite increase or reservoirs. The facilities for artificial reservoirs, also, should these be needed, are very superior. The stream being connected with numerous lakes, is constant at all seasons.

The rocks are suitable for building purposes, and the lay of the land excellent for the accommodation of mills.

The use of the power now constitutes the business of the place, aside from farming, and although but a fraction of the power is used.

Market, the product is sold in Rockland and New York. Tide waters are within half a mile, and the railroad from Bath to Rockland, now building, passes near the power.

The large volume of water, the constancy of the flow, the accessibility of the power, and the facility and cheapness with which it can be improved, render this a privilege of quite unusual excellence and value.

WASHBURN—AROOSTOOK COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

"Salmon Brook Falls," upon Salmon brook; height, twenty-five feet in a horizontal run of three-fourths of a mile.

One saw mill upon it; the mills formerly upon it were all burned in 1864. Turbine wheel employed; efficiency four to one as compared with wheels previously used.

The power, if fully used, would cut 2,000,000 feet lumber, 1,500,000 shingles, 100,000 clapboards, and grind 500,000 bushels of grain.

Stream connected with a pond 500 acres in extent, the capacity of which could be greatly increased by dams; artificial reservoirs could be inexpensively constructed. Perfectly safe from damage by freshets.

Rock, limestone, suitable for building purposes. Improvement of the power has doubled the wealth of the town. Annual product of the power as now used, but a small part, $5,000.

WASHINGTON—KNOX COUNTY.

[See Appendix.]

WATERBOROUGH—YORK COUNTY.

Digested from Selectmen's Returns.

[See also "Limerick and Waterborough."]

EIGHT POWERS.

First and Second, on Branch brook; run three-fourths of the year.

Third, on the outlet of the Little Ossippe pond; runs four saws and one planer.

Fourth, on Smith brook; runs two saws through the year.

Fifth, on the Colcord brook; one saw; runs half the year.

Sixth, on Down's brook; is not now occupied.

Seventh, on Johnson's brook; runs two saws one-half year.

Eighth, on Roberts' brook; runs one saw one-half the year.

WATERFORD—OXFORD COUNTY.

Digested from Selectmen's Returns.

SEVERAL POWERS.

The larger powers, two in number, are situated in the south part of the town, one on the outlet of Bear pond, which itself receives the discharge of Moose and Thomas ponds, and one on the stream connecting Thomas and Bear ponds.

The first mentioned is called the "Dudley Privilege"; the second, the Hapgood privilege. The fall at the former is fifteen feet in four rods; of the latter seventeen feet in the same distance. Power at either privilege estimated sufficient to saw 500,000 of lumber in a year.

Only a part of the power employed at either privilege; a saw mill and grist mill on each at present; ample power for others, "or for factories."

The first power is connected with three ponds whose combined extent is 2,140 acres; the second with one pond 484 acres in area. The capacity of the ponds connected with the former could not readily be increased; with the latter, at an expense of $300.

Suitable building stone within a short distance; land level and gently sloping about the falls. Power not yet sufficiently improved to affect wealth and population materially; serves simply local uses.

Market, Norway and Bridgton, ten miles each, by road; Portland nearest city, by railroad from South Paris, and by canal from

Harrison; South Paris twelve miles, and Harrison four miles distant.

No information given respecting the smaller powers. Undershot and Breast wheels.

Particular attention called to the "Dudley" privilege. This has 500 acres of reservoir; is within fifty rods of the lake, so that the delivery of water can be regulated with ease; in particular the mill pond can be dried up day or night in cold weather, and water let on in the morning, warm from the pond, and so the formation of ice is prevented; thirdly, it is within fifty rods of the county road from Fryeburg to South Paris, and only ten miles from South Paris depot, and four miles from the head of the Cumberland and Oxford canal; fourthly, a dam can be erected at very trifling expense; fifthly, the owners desire to sell to any party who will improve. Good building stone within thirty rods.

Other privileges on the same stream further down, equally good; unimproved.

WATERVILLE—KENNEBEC COUNTY.

Digested from the Selectmen's Returns, and from the Statement of John Ayer, Esq., for West Waterville.

FIFTEEN POWERS.

The above are situated on Messalouskee, or Emerson's stream, and eight of them at West Waterville, so-called; these, with the improvements thereon, will be considered first.

The distance from Snow pond to Rice bridge, below West Waterville, is about two miles, and the total fall nearly 111 feet, divided as follows:

First dam; at the foot of the pond; fall, six feet; owned by Ellis Saw Company, and others.

Second dam; fall, nine feet; owned by Hubbard & Blake, and others.

Third dam; fall, thirteen feet.

Fourth dam; and the "Cascade Falls"; fall, forty-four feet.

Fifth dam; fall, fourteen feet. The Third, Fourth and Fifth, are owned by the Dunn Edge-Tool Company; the total fall being seventy feet with the "Cascade."

Sixth, a privilege, no dam; fall, eleven feet; owned by Emerson & Blaisdell.

Seventh, near Rice bridge; a privilege, no dam; fall, ten feet; owner not stated.

Eighth, falls between the dams; four feet descent; owner not stated.

The largest fall in the above series is, as appears above, the "Cascade," the total fall of which is forty-four feet, in eight rods. The stream is about seventy feet wide and flows over the dam about one foot deep.

About one-fourth part of the whole power is improved. The power is sufficient to saw 40,000,000 feet per annum. The improvements are five dams, saw mill, grist mill, ——— manufactory, tannery, machine-shop, foundry, scythe and tool-shop, etc.

The Tuttle, Blake and Tub wheels used. The Blake wheel uses less water but is not as strong as the Tuttle.

The improvement of the power has doubled both the wealth and population of (West) Waterville. Annual production, $300,000.

Market, the United States and the Provinces, via Maine Central Railroad and connections.

The above statement applies to West Waterville only.

The following powers are found upon the same stream at Waterville village.

Ninth and Tenth, "Crommett's Mills"; two dams; on the first a saw mill, sash and door factory, and carding mill. The saw mill is owned by T. E. & L. E. Crommett; running the principal part of the time through the year. Sash and door factory owned by Furbish & Sanders, built last year, and doing quite an extensive business. The carding mill is owned by T. E. Crommett. The west end of the dam is unoccupied; owned by T. W. Herrick, Joshua Nye, John & C. K. Matthews, with about thirty acres of land; dam twelve feet high.

Eleventh, a few rods below; a dam, about eight feet high, on which is a match factory, at present unoccupied; Pearson & Lord's old tannery is situated on this dam, now owned by S. H. Ricker & Co. The head and fall of these two dams is about twenty-three feet.

Twelfth, some three-fourths of a mile further down, the "Paper

Mill"; dam six feet high; owned by J. S. Monroe, of Massachusetts. The mill is doing quite an extensive business, running day and night through the year. Nathan Stiles, Agent.

Thirteenth, some twenty rods further on, the "Iron Foundry"; dam built by the Fairbanks' establishment of Vermont; was bought out, some twenty-five years ago, by Webber & Haviland, the present owners, who are doing quite a large business, and might do much more. The east end of this dam is unoccupied; dam twelve feet high.

Fourteenth and Fifteenth, still further on are two good water-powers, on one of which is a dam, twelve feet high; unoccupied; owned by W. B. S. Moore, and others.

As appears from the foregoing exhibit, there are ten dams on this stream; five at or near Waterville village, and five at West village, with good chances for three or four more.

The stream upon which these powers are situated, is remarkable for its constancy, being supplied by lakes almost exclusively. The lake chain tributary to it, is reputed to have a length of sixty miles, and covers not far from twenty-seven square miles of surface. The lakes are very deep, some of them from ninety to an hundred feet, and constitute reservoirs of the highest excellence. The total range of water on the dams from highest to lowest, is only three feet, or thereabout.

The underlying rock is slate, of quality suitable for construction purposes, but not the best. Lay of the land about the falls favorable.

Total annual productions of mills in Waterville, estimated $500,000.

Waterville and Winslow—Kennebec County.

From Materials furnished by G. A. Phillips, Esq., and Col. H. A. DeWitt.

[See also "Waterville," and "Winslow."]

TWO POWERS.

First. There is now at Waterville a dam on the Kennebec river, near the railroad bridge, and built upon the crest of the ledge of the "Ticonic Falls." This dam creates the power which operates the several mills below it, consisting of a grist mill, plaster mill, door,

sash, and blind factory, saw mill, and a large wooden mill used for cutting lumber, &c. There is a large amount of power not now used.

The dam is built of wood, and averages about five feet in height; the head and fall obtained by it being about eighteen feet. The power now created by this dam on an eighteen foot fall, and in an ordinary summer's flow of water, is estimated (by comparison with the power obtained at the Augusta dam) at 4,000 gross horse-power, as developed at the dam. That is to say: The quantity of water flowing in the Kennebec river at Waterville is estimated (from observations made in the summer of 1867) at two-thirds the quantity passing over the Augusta dam. Hence: if the Augusta power is 5,000 horse-power on fifteen feet fall in an ordinary summer's flow of water, and this fact has been determined by measurements, the present dam at Waterville, with two-thirds the quantity of water, and with eighteen feet fall, would create 4,000 horse-power, as above.

Second, is another "Privilege" on the Kennebec river at Waterville, just above the present dam, with a head and fall of twenty-two feet. The whole power of the two privileges is now in the possession of the "Ticonic Water Power Manufacturing Company," who have lately completed the purchase of the water rights, river lands, buildings, and property necessary to the present development of the whole power. The property of the company embraces a river front of about one and three-fourths miles, on the east side of the Kennebec river, and of about three-fourths of a mile on the west side, with 400 acres of land contiguous to the river and amply sufficient for the proposed dams, trenches, mill sites, village sites, farming lands, and other appendages of manufacturing towns.

The company has caused surveys, levels, soundings, cross-sections, and examinations of the river and adjacent lands, to be made the past summer (1867) under the direction of hydraulic engineers, and maps of the property and plans and estimates for constructing the dams and appendages, are now being prepared. The engineers report, as a partial result of their examinations, that a total head and fall of forty feet can be economically obtained at this point, without interfering with the privileges above, and leaving a margin of unoccupied fall for future use, if found expedient or

desirable. It is proposed by them to divide the whole power into two privileges, with a head and fall of twenty feet each, by raising the present dam two feet and building a new dam above, 800 feet long, with a head and fall of twenty feet. This arrangement would give, in an ordinary summer flow of water, say 4,440 horse-powers to each privilege as developed at the dam, which would drive about 296,000 cotton spindles with preparation on print cloths. The total power of both privileges being 8,880 horse-powers, or sufficient for 592,000 spindles.

The river bed at the site of the proposed new dam, is of continuous solid ledge of hard slate rock, and the banks of the river covering the sites for abutments, bulkheads, locks, etc., are all of solid rock, of a height suitable for economical construction. The lay of the land on both sides of the proposed dam is well adapted for durable and economical construction of mills with their necessary trenches, raceways, etc. Materials for construction, such as timber, brick, granite and slate, can be easily obtained at low cost.

The Portland & Kennebec Railroad tracks pass by the side of the proposed mill sites, and the railroad company are pledged to afford every needed additional facilities of tracks as wanted. The depot of the Maine Central Railroad is also within convenient distance for freight and passenger facilities.

It is believed by practical men, that the Waterville water-power in the Kennebec river, from the amount of constant power furnished, the facilities for increasing the power in the future by a system of reservoirs above, the economy of construction, the convenience of location as regards freight and passenger facilities, the advantage of a fine farming country around it, and of obtaining plenty of the best kind of mill help, is justly entitled to be ranked as one of the best undeveloped water-powers in New England.

WAYNE—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

TWO POWERS.

First, "North Wayne Power"; fall, sixteen feet, in 400 feet; owned by the North Wayne Tool Company.

Second, "Wayne Power"; fall, twelve feet in three hundred and fifty feet; owned by H. Johnson, Jas. Turner, S. S. Brown.

The above powers, are situated on the outlet of a chain of ponds seven in number, and extending thirty miles. The ponds are dammed at the outlets, at both points, and the capacity of the lakes is fully brought out, so far as it can be by improvements in the town of Wayne. The flow of water is, of course, exceedingly regular; freshets produce only two or three times the ordinary flow of water, and are harmless. The mills operate all the year.

No estimate of the power, by measurement, has ever been made; but that at North Wayne is judged sufficient to run twelve single saw mills, and that at Wayne to run fourteen single saw mills.

The power at North Wayne is all improved, except at times of high water or flood, in scythe shops, saw mill, grist mill, and wood shops; at Wayne by grist mill, saw mill, shovel handle shop, and sash and blind shops. The power at Wayne is not all used.

The machinery is not the best for economizing power. The wheels are similar to the Blake, Kendall and Rose patterns.

The underlying rock, at North Wayne, is a form of slate, with granite in limited quantities. At Wayne, granite suitable for building purposes. One-sixth of the basin of the streams is covered with woods.

Lay of the land, at North Wayne, is good; at Wayne, is very superior. At North Wayne, surveys have been made; at Wayne, have not.

Total annual product at North Wayne, $75,000; at Wayne, $35,000. The improvement of the powers has benefited the town very greatly; almost the entire village of North Wayne has been built by the Tool Company and their workmen.

Market, the whole country, by railroad.

WEBSTER—ANDROSCOGGIN COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

All the above are situated upon Sabattus stream, the outlet of Sabattus pond.

First, fall twelve feet; second, fourteen feet; third, twelve feet; fourth, eighteen feet.

There are dams and mills upon each fall, but only a part of the power is improved. The mills operate all the year. The privileges are all owned in town.

Sabattus pond is six miles long and one mile wide on an average. Its reservoir capacity could be considerably increased. Stream very safe and constant; abundant water all the year.

Building stone on the fourth fall only; there it is abundant and good. Land upon each of the falls level and convenient for the location of mills. One-third of the basin covered with woods.

Market, Lewiston, six miles, by road or railroad.

WELD—FRANKLIN COUNTY.

Digested from Selectmen's Returns.

FOURTEEN POWERS.

The town of Weld is almost entirely surrounded by mountains, from which seven streams, converging to the centre of the town, are received in the great Webb's pond there situated; upon six of the streams are water-powers.

First, Second, Third, Fourth and Fifth, on the Houghton brook; one grist mill, four runs of stones; a saw mill and shingle mill; a sash and door and dimension mill, with shingle machine; one mill, which has been a butter-tub factory, but is now being remodeled to a spool factory; and another mill in the course of erection. The volume of water is sufficient to run the mills for the most of the year. The descent of the stream is about fifty feet in fifty rods; so that the water can be used over at least five times.

Sixth, about three miles above, on the same stream, a board and shingle mill, known as the "Holden Mills," with power sufficient to run it most of the year.

Seventh, on the East brook, which is situated about three miles above the Houghton brook, board, shingle, clapboard, lath and clover mills. Other mills might be erected and the water used over repeatedly. The volume of water is something greater than that of the Houghton brook. This power is situated at Weld corner, near the centre of the town.

Eighth, on the same stream one-fourth mile above, a mill with machinery for manufacturing carriages, cabinet work, chairs, &c.; the power is only part used

Ninth and Tenth, some three miles above, small powers; a saw mill upon one, and on the other a clapboard and shingle mill.

Eleventh, on the West brook, the volume of water is about the

same as that of the East brook, being sufficient to carry the machinery of a number of mills through the year; the fall of water is about twenty feet in forty rods.

Twelfth, on Snowman brook, a saw, clapboard and shingle mill; mills can operate nearly all the year.

Thirteenth and Fourteenth, on the Skoefield brook, small powers; a board and clapboard mill, and a threshing machine upon one; upon the other, a clapboard and shingle machine.

On the mountains, which surround this town, is a large amount of spruce and hemlock timber; also bass, rock-maple, beech, birch, and white ash, which can be easily conveyed to the mills or the pond and run through the outlet. A large amount of ship timber might be obtained. The soil of the town is good for all kinds of grain and for potatoes, and there are great facilities for raising stock, &c.

"The scenery of Weld is very beautiful, the town being nearly surrounded by mountains with the pond in the centre, forming a vast basin. Almost the whole town is visible from many of the summits of the mountains; among which are Mt. Blue, Hurricane and Metallic. Persons acquainted with the White Mountains, and other summer resorts, say that Weld would stand in the first rank if the accommodations were as good. We hope the time is not far distant when an enterprise of that sort will float this way."

Wellington—Piscataquis County.

Digested from Selectmen's Returns.

SIX POWERS.

First to the Fourth, inclusive, in the westerly part of the town, on the Hegan stream.

Fifth, on a branch of the Hegan stream, near the centre of the town.

Sixth, on the Carlton stream, in the northeast corner of the town. The height of the several falls not reported.

Two of the powers would saw 300,000 feet of lumber. The powers are not all used; five are improved in mills. The mills work about one-third part of the year; one not improved would run the greater part of the year.

Breast, Stearns and Rose wheels. Basin heavily wooded. Annual products, $4,000.

Market, Bangor and Skowhegan, by road.

WELLS—YORK COUNTY.

Digested from the Returns of Geo. Goodwin, Esq.

FIFTEEN POWERS, SMALL.

Ten are situated on Little river, two on Ogunquitt river, two on Webhannett river, one on Branch river.

The fall at the various privileges is from ten to fifteen feet; the power capable of sawing 1,000,000 feet of lumber, less or more, yearly. It is all improved as now used, with not the best machinery. Rose, Centre-vent, Spile-vent wheels.

Streams not connected with lakes or ponds; artificial reservoirs not feasible. Good granite; convenient sites; but little forest. The powers give employment to about fifty men for about half of the year, and so aid them materially in the way of business. Value of lumber sawed, $75,000.

Market, mostly Boston, by water or rail.

WESLEY—WASHINGTON COUNTY.

Digested from Selectmen's Statement.

ELEVEN POWERS.

First, "Bacon Dam," on the Chain lake stream; seven feet head; flows an extent eight miles by three-fourths mile. A dam is to be built to give an eight foot head, forming a large reservoir. There are three ponds in the series.

Second, "Groves' Dam"; below, on the same stream; head of seven feet.

Third, "Hayward Mill"; below, on the same stream; nine feet head.

Fourth, "Joe Hill Dam"; five feet head, on Old stream.

Fifth, on New stream; "Cate's Dam"; nine feet head.

Sixth, "College Falls"; on New stream; ten feet descent, over solid ledge, with bank on each side.

Seventh, on Seavey brook, below the upper Seavey pond; dam, seven feet head.

Eighth, on the same stream, below the lower Seavey pond; dam seven feet head.

Ninth, Tenth and Eleventh, dams on Beaver dam brook, in the northeast part of the town.

None of the power is now improved; has been in years past in saw mills; these have been burned, or otherwise disabled.

Market, Machias, twenty miles.

West Bath—Sagadahoc County.

From the Selectmen's Statement.

NUMEROUS POWERS.

"We supposed that information respecting tide-powers was not desired, and therefore have neglected investigating our resources until it is too late for this season. Would say, however, that our tide privileges are numerous; if properly improved would drive sixty up-and-down saws the year round. This is our deliberate judgment, though not based upon careful survey."

Westbrook—Cumberland County.

The Statement of Geo. W. Hammond, Esq., in behalf of the Selectmen of Westbrook.

TWELVE POWERS.

Three of the above are situated on the Presumpscott river; one at Cumberland Mills village, five miles from Portland, on the Portland & Rochester Railroad, and two in the village of Saccarappa, six miles from Portland, also on the same railroad.

First, "Cumberland Mills Power," a fall of twenty feet, containing fourteen mill-powers, or 2,013 horse-powers, of which about one-half is now in use in the manufacture of paper. The mean velocity of the stream is $1\frac{52}{100}$ feet per second, or eighteen one-fourth inches, taken from five observations, the mean depth of the stream, taken 500 feet above the falls, (an average of cross section of 682 1-2 feet), is $3\frac{31}{100}$ feet, the width of the stream being 176 feet.

The mills are owned by S. D. Warren, Esq., and are worked the whole year. They give employment to 125 men and 100 women, and produce an annual manufacture of over $1,000,000. The improvement of the power has increased the population and wealth of the village to a very large extent, there being from 1854 to 1867, an increase of resident families from sixteen to sixty-six, and of dwelling-houses, for the same period, from sixteen to forty-eight.

The height of these falls, above the sea, is about thirty feet, and the range from high to low water is five feet. The market is chiefly Boston and New York, reached by Portland & Rochester Railroad and teams to Portland, thence by railroad and steamers.

Second and Third, the "Upper Power," at the village of Saccarappa has a fall of twelve feet, and the "Lower Power" of nineteen feet; containing, respectively, thirteen and eight mill-powers, making a total of twenty-one mill-powers; of which number thirteen are now in use. The cross section of the upper fall is about ten feet, and that of the lower eight feet, taken fifteen feet above the falls. A small portion only of the powers is improved.

The several mills are owned as follows: on the northeast side of the river, by the Westbrook Manufacturing Company and Messrs. King & Warren. Those on the southwest side, by Messrs. Warren & Walker, the Patent Wire Company, Judge Fitch, Hon. J. Libby, and others.

The following are the productions of the mills and the names of those who now are working them, viz:

The Westbrook Manufacturing Company, in the manufacture of cotton, employing 75 men and 150 women, and producing over $300,000 annually.

Messrs. Dana & McEwan, in the manufacture of cotton yarn, employing ten men and ten women, and producing over $50,000 annually.

Messrs. Warren & Pennell, in the manufacture of wire, employing from twelve to fifteen men, and producing about $30,000 annually.

Messrs. S. T. Raymond & Co.; grist and plaster mill; employing six men and producing over $125,000 annually.

Messrs. Babb; iron foundry; employing ten men and producing $12,000 annually.

Messrs. Knowlton Brothers; machine shop; employing four men and producing $4,000 annually.

Crowley's laundry, employing four men and two women, and producing $4,000 annually.

Foster's dye-house, employing four men and producing $4,000 annually.

Messrs. Warren & Clements, in the manufacture of lumber, and

grist mill, employing about seventy men and producing about $600,000 annually.

Making the total amount of manufacture about $2,130,000.

The machinery is for the most part very good for economizing power. The wheels used are Gates' centre-vent, Reynolds', Blake's and Tuttle's; but these wheels do not give as good per cent. of the power of the water as some of the late improved and more highly finished patterns.

The capacity of the connected lakes and ponds can be increased to any extent by additions to present and the erection of new dams, &c., at a moderate expenditure. The volume of freshets as compared with the ordinary volume of the stream, is but little more than double. There has been no destruction in past years from high water. The stream can be made uniform in its volume throughout the year. The lay of the land about these falls with reference to the convenient location of mills and workshops, is all that can be desired for the most part. The several proprietors on this river would be disposed to have surveys taken at their own expense for the speedy exhibition of their property. About one-eighth of the river basin is covered with forest. The height of the river at Saccarappa is about sixty-two feet above the sea. The out-cropping and underlying rocks, blue trap, are well adapted for rough, strong erections.

Duck Pond stream takes its rise from the pond of the same name, which pond is over three square miles in extent and over twenty feet average depth. It is supplied chiefly from small ponds and springs, and is 171 feet above the level of the sea. The stream is over ten miles in length from "Pride's Bridge" to the pond, and is 161 feet above the river at this point. The width of the stream is pretty uniform at about forty feet.

Fourth; the only improved power on this stream is at the outlet of the pond. The height of the falls is seventeen feet, and the power is estimated at fifty horse. It is owned by the Cumberland Bone Manufacturing Company, and is employed in the manufacture of bone manure, and of pails and tubs; employing about twenty-five men and producing in the manufacture of bone manure about $25,000 annually, and that of pails and tubs about $20,000.

Fifth, Sixth, Seventh, Eighth and Ninth; there are five addi-

tional good mill sites on this stream, which with the aid of dams would give a fall of from fifteen to twenty-two feet each, and from fifty to seventy-five horse-power. About one-sixth of the basin of the stream is covered with forest. The population and wealth are nearly all due to the power improvement. The market is chiefly in this State, by teams to Portland. Wheels are Tuttle's and spiral-vent. The capacity of the pond could not be increased with advantage to any great extent. There has been no injury in years past from freshets. Stream may be made perfectly uniform throughout the year. The lay of the land for mills and workshops, good. Rock, blue trap. Large quantity of granite very convenient.

Tenth, on the Stroudwater river, in the village of Stroudwater, about two and one-half miles from Portland. The falls are twelve feet high, and the grist, salt and spice mills upon them, are owned by W. H. Stevens. Three runs of stones and three Tub wheels, employ about eight men, produce about $20,000 annually; capable of grinding forty bushels of corn per hour. The average depth of stream is about ten feet, taken 100 feet above the falls. The falls are twelve feet above the sea. The market is chiefly Portland, reached by teams.

Eleventh and Twelfth, about three miles further up the stream, within one mile from the village of Saccarappa. The upper, known as the "Johnson Falls," is seventeen feet high. The lower fall is 18·9 high, and is known as the "Babb Falls." The height specified is attained respectively in a horizontal distance of about 1,000 feet. The falls are situated about one-half mile from each other. The upper fall is rated thirty, and the lower sixty-three and one-half horse-power.

There is a small threshing and saw mill owned by Rufus Johnson, but scarcely in running order yet. No other improvement on either fall. The river has only a small flow of water, but there is generally a stream of not less than one foot cube.

Lay of the land eligible for mill purposes. Trap rock; no injury to be apprehended from freshets. The dams for these two powers would require but a small outlay; the water could be taken in a penstock, and by so doing a dam one or two feet high, would be all that is required.

West Gardiner—Kennebec County.

[See Appendix.]

Weston—Aroostook County.

Statement of Selectmen.

TWO POWERS, SMALL.

First, on Cold brook, in the northwest corner of the town, with a privilege on it that has run a saw mill perhaps eight or ten weeks in a season.

Second, formerly a grist mill on Trout brook, in the southwest part of the town, that would grind a few weeks in a season.

Westport—Lincoln County.

[See Appendix.]

Whitefield—Lincoln County.

Digested from Selectmen's Returns.

NINE POWERS.

First, on the Eastern branch of the Sheepscot river at the extreme northern limit of the town, a fine mill privilege, with a saw mill, grist mill, shingle mill and other machinery. Not occupied upon the western side.

Second, twenty rods south of this point, another good privilege; a shingle mill and grist mill.

Third, three miles south, on a small stream flowing out of Pleasant pond, another fine privilege within twenty rods of the main river; a saw mill and shingle mill.

Fourth, one mile south of this point, on the main river, another fine privilege; a saw mill, shingle mill, grist mill, carding and clothing mill.

Fifth, on the western branch, some two miles north of this point, a good privilege; formerly a saw mill.

Sixth, south of the Fourth, about three miles on the main stream, another good privilege; formerly two saw mills.

Seventh, one mile south of the last mentioned point, there is the best privilege on the river; formerly two saw mills, grist mill, box mill, shingle mill and blacksmith shop.

Eighth and Ninth, about two and one-half miles still further

south, another good privilege. In the southeastern part of the town, on a small stream flowing into the main river, another privilege; a saw mill, with circular saws, and a shingle mill.

Tenth, on another small stream, flowing into the *main river*, near the centre of the town, about one-half mile north of No. Seven, is another privilege, on which there is a shingle mill. There are some other good privileges, on the main river, that have never been occupied.

The head and fall of all the privileges on the main river, will average ten to twelve feet. The volume of water, and the amount of machinery that it is capable of driving, I am unable to state, as there has been no survey made; suffice it to say that the river takes its rise in what is called Long pond; it will drive as much machinery as any other river in the State of its size.

WHITING—AROOSTOOK COUNTY.

[See Appendix.]

WHITNEYVILLE—WASHINGTON COUNTY.

Digested from Selectmen's Returns.

ONE POWER.

The "Middle Falls," or "The Mills," on Machias river. Height ten feet in a distance of fifty rods. The dam is fifteen feet high, and ponds the water back five or six miles. Improvements, three gang saw mills, five single saws, four lath mills, one shingle and one clapboard mill. Mills work about half of the year. Shingles and laths are sometimes sawed in the winter. The Stearns wheel used. Power owned by an association known as the Whitneyville Agency. The members of it reside part in Whitneyville and part in Boston.

The power with the present machinery, dams, etc., would saw 10,000,000 of long lumber, 10,000,000 of laths, 800,000 shingles, and 50,000 clapboards. In 1866 the mills cut 11,000,000 long lumber, 11,000,000 laths, 800,000 shingles, some clapboards, and a few thousand spool bolts.

The power is capable of large increase by the improvement of the lakes and the construction of a better dam. Six hundred acres of artificial reservoirs might be constructed. With a good dam, a

gang and single saw, and lath mill, could undoubtedly run through the whole summer. Most of the lakes are dammed, but only for log-driving purposes, and of course the water is not available to any considerable extent for the mills.

The power as at present improved is about all appropriated. Proprietors would probably be disposed to bear part of the expense of a survey. "All the wealth here has come from the improvement of the power."

Market, by railroad to Machiasport, seven and a half miles distant, and thence by sea, in vessels of all sizes, to all quarters.

WILLIAMSBURG—PISCATAQUIS COUNTY.

Digested from Selectmen's Returns.

THREE POWERS.

First, on the west branch of Pleasant river, at the mouth of Roaring brook; would drive a saw mill and grist mill all the year. Unimproved.

Second, on Roaring brook, two miles from its mouth; would drive a grist mill and saw mill one-half of the year. It is entirely unimproved. There might be an artificial reservoir.

Third, on Whetstone brook; a saw mill about going up, with shingle machine; will operate about half of the time.

First and Second are in the unbroken wilderness.

WILTON—FRANKLIN COUNTY.

Digested from the Returns of Maj. John H. Willard, Endorsed by the Selectmen.

TEN POWERS.

All the above are situated on Wilson's stream, the outlet of Wilson's pond, in the south part of the town, which forms the reservoir for the powers at and below the outlet.

This pond, according to the town plan, contains 390 acres; but the surface now flowed by the dam, which is five feet six inches high, is much greater. The pond is very deep; in one part no bottom can be found with a line 175 feet long. This great body of water retains the heat, so that there is no trouble from ice at the mills near the pond. North Pond discharges its water into Wilson's stream, above East Wilton. The area of this pond is nearly as great as that of Wilson's.

First, at the outlet, an old grist mill and saw mill standing, but not now used. The Woollen Manufacturing Company at East Wilton has purchased the land and privilege, and now use the pond as a reservoir for the powers at East Wilton. Fall from eleven to fifteen feet; occupied by saw mill and shingle mill, with right to draw one and a half feet below top of dam; will saw 3,000 hemlock and 5,000 shingles per day; except in severe drouth can saw most of the time summer and winter. Flouring mill with four runs of stones and cleanser, now used for custom work only. This mill, with all gates hoisted, draws 277 inches water. Mr. A. Wilkins, the miller, estimates that he could run his mill six hours per day with a full head from all his gates, after the saw mill has to stop. Starch factory, with right to draw sufficient water for the same nine months in the year.

Second, with seven and a half feet fall; Brown's planing machine and furniture manufactory; also, Furnel's planing machine.

Third, estimated fall eight feet; Furnel's woollen factory, machinery not yet in.

Fourth, fall six feet; Sullivan's carding mill and planing machine.

Fifth, fall five feet; Bass' tannery.

Sixth, fall fifteen feet; unoccupied; F. Robbins.

Seventh, fall ten feet; Bartlett's saw mill, threshing machine, &c.

The foregoing powers are all within three-fourths of a mile of the pond, and amount to but 66½ feet, reckoning the grist mill to top of dam fifteen feet. The fall from Wilson's pond to the first mill-pond at East Wilton, a distance of about three miles, is 150 feet, according to two surveys.

There is one good power between C. Bartlett's mill and East Wilton. One or two others of about three feet may be had.

Eighth, fall fourteen feet, at East Wilton; Holt's scythe factory, Harper's saw mill, spade-handle factory, &c.; plenty of water year round.

Ninth, fall thirteen feet; Wilton woollen factory; three sets machinery, forty inch, now run. Mr. Townsend, the agent, says there is plenty water to run five sets.

Tenth, fall ten feet; Swayne's estate; grist mill, one run stones,

shingle machine and threshing machine. In addition to the water of East Wilton, this power has the water from Pea's pond, ninety-nine acres.

WINDHAM—CUMBERLAND COUNTY.

[See Appendix.]

WINDSOR—KENNEBEC COUNTY.

[See Appendix.]

WINN—PENOBSCOT COUNTY.

Digested from the Returns of Winn.

[See also "Chester and Winn."]

FOUR POWERS.

First, "Gordon Falls," on the Mattawamkeag river; fall, 100 feet in two miles. Power, that of the whole Mattawamkeag river a little above its confluence with the Penobscot.

Second, "Upper Mattakeunk Falls," on the Mattakeunk river; fall, fifty feet in 100 rods; saw mill. Otherwise totally unimproved.

Third, "Lower Mattakeunk Falls"; fall, fifteen feet in 125 rods; not improved. About 500 square inches of water.

Fourth, Rapids on Salmon stream; saw mill; otherwise not used; will operate about half the year.

All the powers, except the last, will carry a large amount of machiney all the year. An insignificant portion of the power is now improved. Granite and slate rock abundant; sites excellent, in every case; proprietors would, doubtless, aid in a survey. Nine-tenths of the basins of the streams are covered with wood. Yearly products of mills, about 1,000,000 feet lumber.

Market, Bangor, by Penobscot river.

WINSLOW—KENNEBEC COUNTY.

Digested from Selectmen's Returns, including a Plan of the Water-Power.

[See also "Waterville and Winslow."]

SEVEN POWERS, AND MORE.

First, on the Mill brook, fed by large ponds in China. "Upper

Dam"; a woollen factory, owned by J. D. Lang; turns out eighty dollars per day of manufactures when in operation. Peg factory on the other side.

Second, "Second Dam"; no machinery in operation.

Third, "Haydon's Dam"; saw mill, shingle mill, threshing machine, picket mill, and the power is but partially used.

Fourth, "Fourth Dam"; saw, shingle, picket and lath machine; power part used.

Fifth, on the outlet of Pattee's pond; grist mill and shingle mill; formerly a saw mill; power only partially used.

Sixth, on the outlet of Webber's pond; a saw mill; can operate one saw.

The Sebasticook river falls twenty feet in passing through the town; has a ledgy bottom at points, and could, doubtless, be dammed, and would yield large amount of power.

WINTERPORT—WALDO COUNTY.

[See Appendix.]

WINTHROP—KENNEBEC COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

"We have quite an extensive manufacturing business in town, worked by an excellent water-power, situated at the village, and between the two ponds called North and South."

First, a woollen factory, about fifteen feet head and fall; manufactures blankets, &c.; uses 400 lbs. wool per day, and pays $100 per day for labor; amount of goods sold per annum, $150,000.

Second, a grist mill of about the same power, and a bark and fulling mill, on same dam. The grist mill grinds 12,000 bushels of grain of all kinds per annum; the bark and fulling mills are unemployed.

Third, a saw mill and cotton factory, same dam, about twelve feet head and fall; mill saws about 200,000 feet of lumber annually; the factory makes cotton yarn and lines; amount of goods manufactured and sold, $75,000.

Fourth, "Whitman's Agricultural Tool Manufactory" manufactures cider mills, horse and hand rakes, planing, threshing and

winnowing machines, &c., &c.; iron machine shop, foundry, &c., connected, and a saw mill on the same dam; about the same as the other privileges for power; the mill cuts out 500,000 lumber per year. The agricultural implements, &c., manufactured and sold, amount yearly to from $75,000 to $100,000.

Fifth, on a small stream leading from Carlton pond, in East Readfield, and emptying into Narrows pond; is used only a part of the year; occupied by Jacob Pope of Manchester, to polish and finish hay-forks, &c.; formerly used for a saw mill.

Sixth, on a small stream leading from a small pond in East Winthrop, and emptying into the Cobosseecontee or Winthrop Great pond, used by Parlin Brothers for grinding bark, &c., for a tannery.

WISCASSET—LINCOLN COUNTY.

Digested from Selectmen's Returns.

TWELVE POWERS.

First to Eighth inclusive, on Mt. Sweag stream; all have been, in times past, improved; only one at present, McKenney's grist mill; six or seven feet fall; grinds six months in the year; (average) about ten bushels per hour.

The other mills, saw and grist, have all been carried away or burned; height of fall at other places before dams were carried away, five to ten feet; average six, and about the same power of the one now standing. One of the mills sawed 100,000 feet boards, etc., per year.

Ninth, in the eastern part of the town; Wright's grist and plaster mill; partly a tide-mill; grinds fifty bushels corn to a tide. Kendall wheel; finds it much better than the Partridge or Atkins wheel for tide wheel.

Tenth, Eleventh and Twelfth, tide mills, south part of the town; saw from 100,000 to 500,000 feet per year.

WOODSTOCK—OXFORD COUNTY.

Digested from Selectmen's Returns.

FOUR POWERS.

First, on Concord river, the outlet of two ponds, called Little Concord and Great Concord. The capacity of these ponds might be

increased with small expense. The location is poor; being six miles from any market, and a bad road; "Perry's Saw Mills"; operate three or four months in the year. There is a large quantity of spruce and hemlock in the vicinity; also a small amount of pine.

Second, a small power at the outlet of Bryant's pond; two miles from Bryant's pond village, on the Grand Trunk railroad. Good location as respects market; some timber in this vicinity; privilege not improved. It offers decided advantages for manufacturing upon a small scale. The capacity of this pond could be increased without a very heavy expense; indeed it has already been considerably increased by a company located at South Paris, who are engaged in the manufacturing of flour upon the Little Androscoggin; one branch of which is the outlet of Bryant's pond. There is a great quantity of granite in the vicinity, and of good quality.

Third, a small power on a branch of the Little Androscoggin river; it is convenient to market. "Andrews' Mill," for sawing boards, and manufacturing coffins, sash, doors, &c. But a small amount of timber in this vicinity; saw mill operates two or three months in the year. The power is formed by the union of two brooks called the Perham and Perkins brooks.

Fourth, at North Woodstock, a small power on a branch of the Little Concord river. The location is a good one, two miles from Bryant's Pond station on the Atlantic & St. Lawrence railroad. "Crocker's Saw Mill," not used now. Considerable timber in this vicinity, and we think the location offers advantages to any one who would engage in the manufacturing of lumber on a limited scale.

The natural falls at these privileges are slight, their capacity being increased by dams. Wheels and machinery are not, generally, of the most approved kind. Freshets have done but slight damage in years past, although the streams are from mountains, and during heavy rains pour down great volumes of water for a short time.

WOOLWICH—SAGADAHOC COUNTY.

[See Appendix.]

YARMOUTH—CUMBERLAND COUNTY.

Digested from Selectmen's Returns.

SIX POWERS.

They are called,—one, "Gooch's"; four, "Baker's"; one, the

"Factory Fall." All are situated on Royal's river; combined height, sixty-six feet in one mile.

Power estimated sufficient to grind seventy-five bushels of grain per hour each. Power is not all improved; mills work all the year; machinery not the best.

Stream connected with three small ponds. Range from lowest to highest water, eight feet. Effect of the improvement of the power upon the wealth of the town, excellent.

Market, Portland, by G. T. R., and by sea.

York—York County.

Digested from Selectmen's Statement.

TWO POWERS.

First, "Chase's Wool Factory," upon a fall of nineteen feet, on the outlet stream of Chase's pond, 350 acres in extent. A pond above, of 100 acres, might easily be drained into Chase's pond.

Second, two miles below, "Webber's Mills," on a fall of thirty-five feet; saw mill, grist mill, and shingle mill.

None of the mills work all the year.

APPENDIX.

The following returns were made too late for incorporation with the main body of the Report.

A large amount of information has been collected respecting the waters-powers on the upper sections of the Kennebec, Penobscot and Androscoggin, and in the region of the Aroostook, Allaguash, St. John and Fish rivers, which is not, at the date of issue of the Report, ready for publication. A considerable number of plans of towns with the *locations* of powers, both the used and the unused, marked thereon, have been sent in, in response to the circulars issued May last. These are needed for the completion of the Water-Power Map, except in cases where the location of the powers is given on the County Map or in the Report.

Amherst—Hancock County.

From the Selectmen's Statement.

SIX POWERS.

First, "Buzzell's Tannery," which operates all the year and uses 1,500 cords bark. Saw mill which operates six months. Situated on the west branch of the Union river. Abundant water except in a severe drouth.

Second, above on the same stream, about midway its course in the town, "Silsby's Falls," not now used. Mills burned down.

Third, upon Spring brook, a site for four shingle mills, power six months of the year; not used.

Fourth, upon Half-mile brook, power for a shingle mill four months; not used.

Fifth, on Warm brook, power for a shingle mill four months; not used.

Sixth, on Chick's brook, grist and shingle mill; water six months.

Athens—Somerset County.

From the Statement of William McLaughlin, Esq., with Plan of the Water-Powers.

FIVE POWERS.

First, on the outlet of Wentworth pond, a tributary of the Wesserunsett river, about a mile and quarter below the pond, twelve feet fall; a dam and saw-mill.

Second, just below, nine feet fall; grist and shingle mill.

Third, below, eleven feet fall; shingle mill.

The above mills, known as "Fellows' Mills," are all within a distance of thirty rods. The pond covers 325 acres, and by small outlay might be converted into a reservoir ample for the supply of the mills at all seasons of the year.

Fourth, at the village, on the Wesserunsett river, ten feet fall, part natural, with machinery for manufacturing lumber; carding and fulling mill.

Fifth, twenty rods below, fourteen feet fall; flour mill, large lumber mill, planing machine, etc. Only part of the power used. This is regarded an excellent site for a cotton or woollen mill.

Canton—Oxford County.

Digested from the Statement of the Selectmen.

SIX POWERS.

First, "Capen's Rips," on the Androscoggin river. Fall six to ten feet in ten rods. A saw-mill was formerly operated at this point. A substantial dam can be erected here, and an excellent water-power established.

Second, "Canton Mills," upon the outlet of Whitney pond. Height of the falls, eight feet, in a running distance of three rods. One up and down saw, a shingle saw, cutting-off saw and lath machine, operate from three to six months in a year. Also a small tannery and a grist-mill with four runs of stones and one bolt; grist mill operates the whole year.

Whitney pond is nearly 2½ by ¾ miles. By means of dams the power can be increased, not materially, however, without damage by flowage. No loss by freshets when the dam is in good order.

Third, fifteen rods below the saw and grist-mill, a fall of three feet vertical, with a dam to add seven feet head. A foundry, with the first right to draw the water, two large planers, one small do., one iron lathe, one wood do., and various saws, all of which may be

propelled at the same time. Across the stream is a carriage manufactory with necessary saws and lathes.

Fourth, "Stubbs' Mill," upon the outlet of Dix pond; fall twenty feet; overshot wheel, on which twenty-nine cubic inches of water carry the board saw. An up and down saw, shingle saw, bolting saw, and a machine for sawing box-boards.

Fifth, between this and the pond, has the same attitude and is not used. A dam controls the water in the pond without damage to any land owner and might be made to hold it still higher. There is no brook running into the pond, which is fed by springs and is about one-half mile in length.

Sixth, "Howe's Mill," on Howe's stream; fall fifteen to twenty feet; stream small, and a dam would cause the flowage of a large tract of valuable meadow; saw mill and grist mill which operate part of the year.

Market, Portland, by the Portland and Oxford Central and the Grand Trunk Railroads, also by the Androscoggin Railroad and its connections.

Fort Kent Plantation—Aroostook County.

From the Statement of Wm. Dickey, Esq., and Walling's Map.

FOUR POWERS.

First, "Fish River Mills," on the Fish river, one mile above its junction with the St. John; eighteen feet fall. At extreme low run there are twenty feet of water—i. e., a penstock five by four feet full. The low-run volume of water, by the improvement of eighty-two square miles, more or less, of lake surface above, might be increased several hundred per cent. A dam at the outlet of the lower lake alone, Eagle lake, which covers not less than twenty-two square miles, would give a vast amount of water at all seasons.

This power is now improved in several single saws and a gang, also a fine grist mill with four runs of stones.

The water in winter is warm, being fresh from the lake; ice never gives much trouble. The power is never injuriously affected by freshets.

With suitable improvements on the lake above, this would make a power admirable in all respects and adequate for the uses of a large manufacturing corporation.

Second, "Fish River Rapids," on the St. John river, about a

mile below the confluence of the Fish river. This, upon improvement, would make a very fine power. The dam would need to be constructed with large locks to allow the passage of timber rafts and tow boats.

Third, "Upper Rips," on St. John river, about a mile above the junction of the Fish river.

Fourth, "Lower Rapids," on the St. John river, in the north-east corner of the township.

Foxcroft—Piscataquis County.

Digested from Selectmen's Returns.

SEVERAL POWERS.

First, "Foxcroft Dam," on Piscataquis river, at the village. Upon this are located mills as follows:

	Sq. in.	Head.
Carding mill,	100	12 feet.
Saw, shingle and clapboard mill,	500	12
Tannery,	.	9
Woollen factory,	156	12

The above are never obliged to shut down for lack of water except in severe drouth.

The following three mills use the surplus water from the same dam; are generally obliged to shut down five weeks in the year from scarcity of water:

	Sq. in.	Head.
Sash and blind factory,	144	10 feet.
Iron foundry,	144	10
Machine shop,	144	14

"Blethen's Mills," as follows:

"Blethen's saw and shingle mills," . . 9

Operate four months annually.

"Jordan's grist mill," . . 36 14

Operates all the year. Could have one hundred inches nine months of the year.

Second, "Pratt's Rips," on Piscataquis river, a mile above the Foxcroft dam. It is well nigh as valuable as the latter, is well situated and adapted for improvement. The land lies favorable for the location of mills. No part of the power is used.

Third, Fourth, Fifth, etc., etc., situated upon Weston and Chase brooks. Former drains Weston pond, one by three-fourths miles,

which could be raised six feet without flowing more than two acres. The latter drains Snow's pond, one-half by one-fourth miles; pond might be raised indefinitely. The mills upon these brooks could operate nearly all the year, if the water were suitably used and economized.

There are several privileges upon the Hammond brook.

A large variety of wheels used; the "Tyler" most esteemed.

Market, chiefly in the county. The products of the woollen factory go in part to Boston and New York. A railroad from this town (the terminus) to Bangor will be in running order next year, (1869.)

Abundant granite for building purposes accessible conveniently.

A large artificial reservoir for the Piscataquis river could be constructed in the town of Abbot, twelve miles above.

Harpswell—Cumberland County.

From the Statement of the Selectmen and of Messrs. True & Co., Portland.

SEVERAL POWERS.

All are tide powers, several very excellent ones being unimproved.

First, "Casco Bay Mills," at the lower Narrows of the "Basin," in the southeast part of the town. Length of dam, two hundred and seventy-five feet; height above low water, twelve feet; mean rise of tide, nine feet. Area of pond, two hundred acres; about one-fourth filled at low water to about fifteen feet depth. Mill, forty-five by fifty feet, three storied; Ryder turbine, fifty horse-power. Building will accommodate three wheels and six runs of stones. Capacity of privilege fully developed, estimated at 600 horse-power. Privilege situated on an excellent harbor; vessels of 8,000 bushels grain capacity discharge directly into the mill. Fourteen miles from Portland. Owned by Geo. W. True & Co., Portland.

Second, at "Mill Cove," grist mill and saw mill.

No information respecting the other privileges.

Mayfield—Somerset County.

Selectmen's Statement.

FIVE POWERS.

First, operating a saw and shingle mill four months yearly, in the southeast part of the town.

Second, shingle and lath mill in the southwest part of the town, operates four months.

Three good mill-sites on the Austin stream, in the northwest part of the town. Unoccupied. Stream fed by four ponds, whose area is, all together, three square miles.

UNREPORTED TOWNS.

Circulars were issued to four hundred and twenty-five towns and plantations. Of these, returns have been received from three hundred and eighty; leaving four hundred and ninety-nine towns, plantations and townships, (out of the eight hundred and seventy-nine in the State) chiefly townships, in the sparsely inhabited and wilderness districts, unreported. Of the municipalities to which circulars were addressed, the following have made no returns:

ANDROSCOGGIN COUNTY.

Auburn.

AROOSTOOK COUNTY.

Alva Plantation.
Amity.
Benedicta Plantation.
D'Aigle Plantation.
Grant Isle Plantation.
Madawaska Plantation.
Maysville.
Monticello.
Orient.
Perham.
Smyrna.

CUMBERLAND COUNTY.

Casco.
Otisfield.
Sebago.

HANCOCK COUNTY.

Aurora.
Eastbrook.
Eden.
Waltham.

KENNEBEC COUNTY.

Albion.
Unity Plantation.
West Gardiner.
Windsor.

KNOX COUNTY.

Thomaston.
Vinalhaven.
Washington.

LINCOLN COUNTY.

Bristol.
Monhegan Plantation.
Westport.

OXFORD COUNTY.

Andover North Surplus.
Fryeburg.
Oxford.
Peru.
Riley Plantation.
Stoneham.

PENOBSCOT COUNTY.

Bradley.
Carroll.

PENOBSCOT CO., (*Continued.*)
Charleston.
Chester.
Clifton.
Edinburg.
Etna.
Greenbush.
Hampden.
Hudson.
Milford.
Oldtown.
Springfield.
Stetson.

PISCATAQUIS COUNTY.
Kingsbury.
Orneville.

SOMERSET COUNTY.
Lexington.

WALDO COUNTY.
Frankfort.

WALDO CO., (*Continued.*)
Northport. (Returns received, but too late for publication.)
Thorndike.
Unity.
Winterport.

WASHINGTON COUNTY.
Beddington.
Crawford.
Cutler.
Jonesborough.
Lubec.
Pembroke.
Trescott.
Whiting.

YORK COUNTY.
Alfred.
Dayton.
Kittery.
Lyman.

WALTER WELLS,
Secretary Hydrographic Commission.

14 DAY USE

RETURN TO DESK FROM WHICH BORROWED

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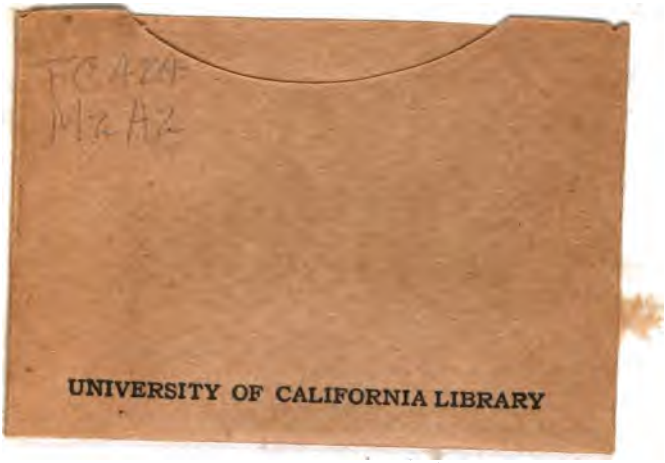
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